# Journal
## OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION


*AVMA Convention—Cleveland, August 19-22, 1957*




***Contents continued on adv. pages 2 and 4***



**Vol. 130** **February 1, 1957** **No. 3**

# IOLEN

Corn States with Dextrose, 50%

*For treatment of infections amenable to iodine therapy*

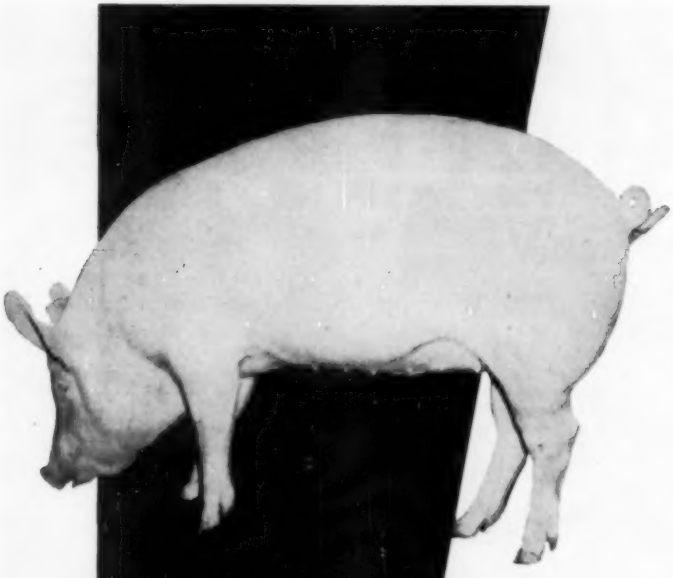
Corn States

Try Iolen Powder for the next case in which treatment with an organic iodine compound is indicated. Iolen contains 5% hexamethylene tetramine tetraiodide which yields 78.5% free iodine. This powder is now compounded in a dextrose base for improved palatability. Veterinarians find Iolen a handy dispensing item as it can be sprinkled on the feed. Iolen is especially useful in the treatment of the various forms of actinomycosis and other chronic bacterial diseases.

Corn States

Corn States LABORATORIES, INC.

1124 HARNEY OMAHA 2, NEBRASKA



# NORVAC®

**rabbit modified live virus, porcine origin**

## HOG CHOLERA VACCINE

A 2 cc dose of NORVAC
used with serum
for immediate protection,
produces solid, durable immunity
in healthy, unexposed swine
vaccinated at five weeks of age
Duration of immunity in excess
of two years has been demonstrated
with this type vaccine

NORVAC contains finely processed
swine tissues, suspended in special
media, lyophilized and vacuum sealed
Tissues used come only from pigs
that show a definitely prescribed reaction
following inoculation. Fully tested
for potency, safety and purity

Supplied in 5, 10, 25 and 50 doses
with sterile diluent

**NORDEN LABORATORIES**

Norden®

**LINCOLN, NEBRASKA**

Journal of the American Veterinary Medical Association

# CONTENTS

**Continued from Cover**

## SURGERY AND OBSTETRICS



## CLINICAL DATA



## CURRENT LITERATURE



## THE NEWS





**$15.00 per Annum** **Single Copies, $ .75 Prepaid in U.S.**
**Canada and Pan American Countries, $15.50; Foreign, $16.50**
**Published semimonthly at 600 S. Michigan Ave., Chicago 5, Ill., by the American Veterinary Medical Association. Second class mail privileges authorized at Chicago, Ill., January, 1956. Additional entry at Mendota, Ill.**

## CONTENTS—Continued

MISCELLANEOUS



ORGANIZATION SECTION

# AVMA ☆ Report

Beginning with the Jan. 1, 1957, issue, remarks made and papers presented at the "Preconvention Conference on Public Relations," held Oct. 14, 1956, during the AVMA Convention in San Antonio, are published here.

## Putting Public Relations to Work

Leo E. Brown, Director, Public Relations, A.M.A., Chicago

*Presented at the AVMA Public Relations Conference, San Antonio, Oct. 14, 1956*

I bring greetings from the A.M.A., from Dr. Murray, our president, Dr. Lull, our secretary and general manager, our board of trustees, and wish for you a successful meeting.

I do not know of any allied organization with which medicine cooperates where we have had a finer relationship than with the AVMA. I appreciate the opportunity to speak to you today.

In talking about public relations, sometimes we have a dickens of a job trying to explain just what it is, and so many times there are many misunderstandings regarding the term and how it is used.

I was thoroughly impressed by your meeting this morning. When it comes to discussing the topic of putting public relations to work, I think I might sit down right now, because you evidence how you are putting public relations to work, in your discussions this morning.

On many occasions, I could have closed my eyes and envisaged myself sitting at a medical public relations meeting, if you had not discussed the difference between the large and the small animal practitioner. Now, unfortunately, in medicine they have to take care of both.

As Dr. Cross said, everything that we say and do has its public relations bearing. It means that your organization has to be known by other associations, and the other associations should know something about your organization, as was evidenced by one of our last speakers on inter-association activities.

Good public relations is based upon good actions, plus an effective interpretation of those actions. We have public relations whether we want it or not. Our major concern must be whether it is good public relations, or whether it is bad public relations.

One other important thing that we should remember is that a public relations program does not become necessary simply because we are doing things wrong, but many times because what we are doing right is either unknown or misunderstood.

Occasionally, I have made the comment that good public relations is something like making love. You have to be willing to participate in it, if you expect to get any satisfaction out of it.

I would like to discuss how the American Medical Association has attempted to put its public relations program into action. It follows along many of the same activities which you discussed here this morning.

In 1951, as we were winding up our national education campaign against compulsory health insurance, we saw the need for a long-range public relations program. In your efforts to promote a public relations program, you have to recognize that, in many instances, you are not going to see immediate benefits. This is a long-range activity and endeavor that has to be gone about patiently and consistently.

I do not believe it is wise procedure for us to develop these programs in the name of public relations, because ofttimes it is misunderstood. It is much wiser for us to develop our programs in terms of public service so that the benefits that accrue from this public service will generate good public relations. Therefore, we do not get into difficulty even with our own members. When we appropriate money for the development of a public relations program, they seem to think that it is not worthwhile. But if it is in the public interest, as a public service, and the people come to know us, then, because of our deeds and our actions, we have good public relations.

After our campaign on compulsory health insurance, we knew there were some things wrong with medicine. In any public relations program, we have to recognize our weaknesses and make every effort to develop a program to correct them.

Let me give you two examples. We knew

# THE TRULY PROFESSIONAL vaccine


advertised thru PROFESSIONAL and ETHICAL channels only

Affiliated
BRAND

**AFFILIATED LABORATORIES CORPORATION**

Grain Belt Supply Company — The National Laboratories Corporation
Corn Belt Laboratories, Inc. — The Gregory Laboratory, Inc.

there were serious criticisms of the medical profession. In order to offset this, we have established a network of some 700 grievance committees throughout the country, whereby an individual, if he is dissatisfied with the quality or cost of a particular service, will be able to go to the county medical society grievance committee with the grievance and be heard—both sides of the question, both the physician involved and the individual—and the whole matter will be adjudicated to the best of the ability of the committee. It has been an extremely helpful public relations program for us.

The other criticism is the inability to get a physician in case of emergency. In order to assist in such situations, we have encouraged our state and county medical societies to establish emergency call service, whereby, if the family physician can not be reached, a central number can be called and a physician will be available.

This has proved extremely beneficial —not that it was done in terms of public relations—but the fact that people know now that the profession is concerned with this problem and has done something about it means that they think better of us and, consequently, our public relations have been improved.

There are two major areas or publics that we feel we have to serve. The one is internal public relations, and the other is our external public relations. By "internal" I am thinking in terms of our entire membership and our constituent state and component county medical societies. The outside or the "external" public relations involves all of the general public and outside organizations.

I had better give you a brief rundown here of the organization of the American Medical Association. We have 53 state and territorial medical societies and about 1,900 county medical societies, with a total membership of 160,000. As a matter of fact, we have more difficulty in reaching our 160,000 members, on many occasions, than we do the 160 million of the general public. I am not ashamed to admit that here, because I think it is pretty general in all association work. Communication is one of the most difficult problems that confront any organization. In medicine it is a little more difficult because of the demands not only upon the individual's time but the necessity for him to keep up in his reading, so that he can keep up with what is new in medicine.

In the American Medical Association structure, the weakest place in our whole team is in our membership.

Probably not more than 50 per cent of the members, and less than that in many instances, of our county medical societies attend, actively, the meetings of their local organizations.

Your message this morning on indoctrination was excellent. I would wish that all of our constituent societies would develop an active orientation program of new and old members, because our organizations are going to be only as strong as our local organizations are strong, and their strength is going to depend upon the membership within that organization. It holds true in all groups of society.

From 25 to 40 per cent of the activities in our public relations program is directed specifically to our members, to encourage greater participation at both the local and the state level.

I will divide our public relations activity into a few of our major programs and give you some idea of what we are trying to do.

**Press Relations**

Press relations is extremely important in acquainting the general public with the activities of our association but, in my opinion, I regard it only as perhaps 10 per cent of the major effort of our public relations activity. It is only one tool, one medium of communication, which we feel we are obligated to use in telling our story to the general public.

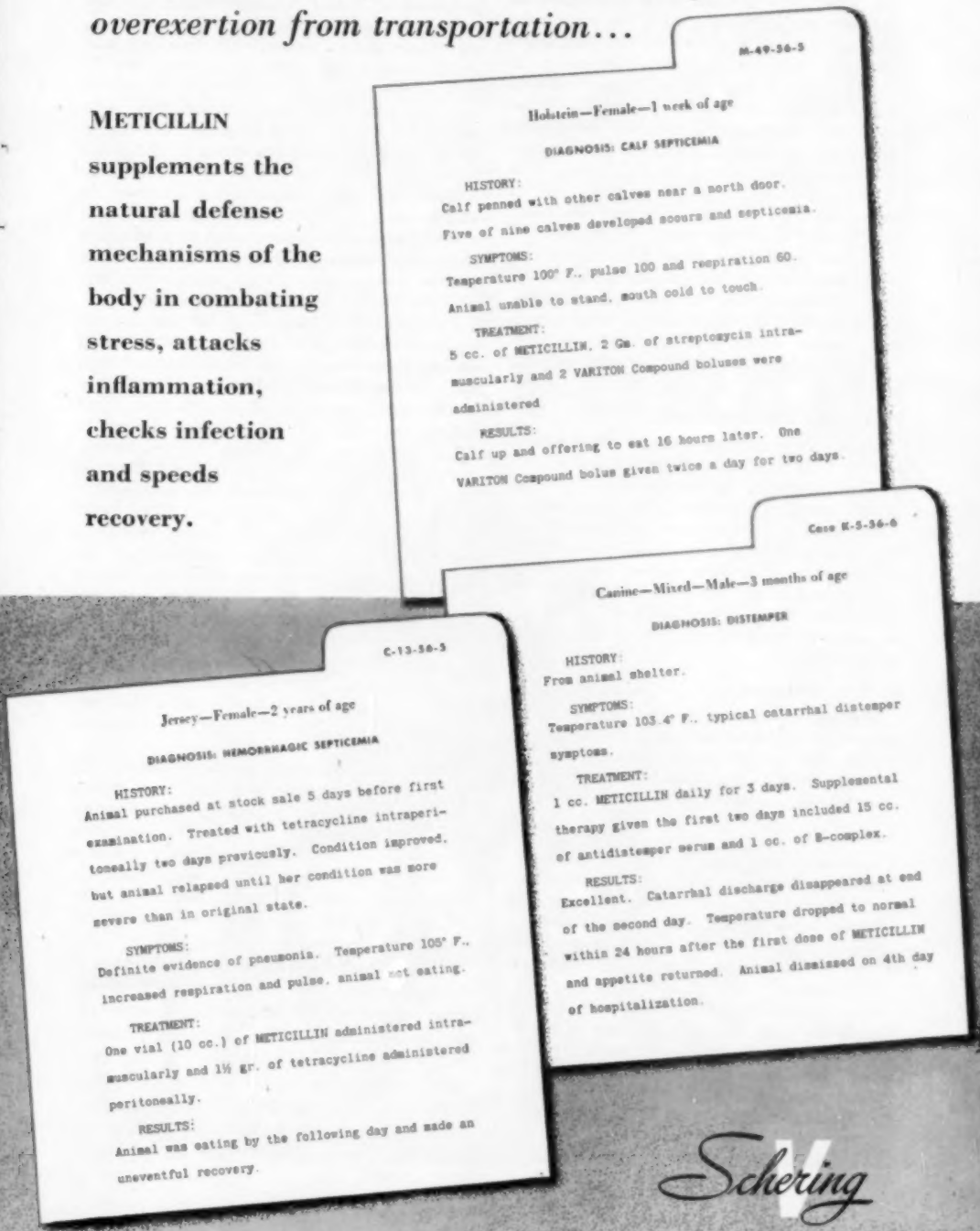
Health and medicine are of more interest to the general public than any other one, single topic, including sports, that we find in our newspapers today. A great deal is written, heard, and said on television on this particular topic. We make every effort to service the communication mediums of television, radio, motion pictures, the daily and weekly press, and magazines.

Because health is so very important in our lives, many magazines today have an article on health in each issue. Last year, in magazines having over one million circulation, there appeared 387 articles on health and medical care. *This Week* magazine each week has a story written by a physician. It is A.M.A.-authorized. The one this week is on "Fad Reducing Tricks Can Ruin Your Health."

This series of articles in *This Week* magazine is currently being printed in book form. We have, we feel, quite a good service for magazine writers, providing them with re-

expressly indicated *in pulmonary infections whether precipitated by exposure, weather changes, or overexertion from transportation...*

**METICILLIN supplements the natural defense mechanisms of the body in combating stress, attacks inflammation, checks infection and speeds recovery.**




Schering

VARITON® Compound, brand of diphemanil methylsulfate and phthalylsulfacetamide.

V-MN-J-217

search assistance and, also, counseling and clearance of some articles.

**Television**

On television, I have been interested in your new series, "Noah's Ark," on which the technical advice is given by the Southern California Veterinary Medical Association. We, too, have a number of contacts of this type. Just this year we have established the Physicians' Advisory Committee for Radio, Television, and Motion Pictures. It is a nine-man committee, located in California, that provides service to script writers, two in particular: "Dr. Hudson's Secret Journal" and "Young Dr. Christian." We do not request any credit for these two shows because their advertisers change at the local level. However, we do provide technical advice so that accuracy can be maintained. Many other shows are appearing in television with which we have worked very closely.

**Public Relations Literature**

Literature is another area in which we are active; it is furnished to state and county medical societies for distribution at local fairs. I recall in my work with the Pennsylvania Medical Society that the Pennsylvania Veterinary Medical Association used to exhibit at their state farm shows. Many of our county and state medical societies do the same now. We find that is an excellent way to reach a great many people in a limited length of time.

**Medical Education**

Medical education has been one of our important topics to discuss with the general public. The supply of physicians has long been an area of criticism. We have to bring that to the attention of the general public.

**Science Fairs**

Last year we participated with the National Science Fair organization, which encompasses some 15,000 science fairs in high schools. Some 3,000 boys and girls made up exhibits at the local level, then showed them on a regional basis and, finally, on a national basis.

Last year's National Fair was held in Oklahoma City. We selected two of the top exhibits in the field of basic science and invited these two young exhibitors to the A.M.A. meeting in Chicago. We expect to do the same thing this year, thus encouraging young folks to become interested in medical science.

**Assistance to County Societies**

We have provided a great deal of assistance to our county medical societies in the development of their own public relations programs. A public relations manual, which outlines the entire public relations program, we have recommended for use by our county and state medical societies. We do have public relations committees in each of our constituent societies, which has been extremely helpful to us in giving continuity to our program from the national to the local level.

There are many, many other activities in which we have been actively engaged, but it is difficult to determine just how effective any public relations program is. You should not be discouraged if you do not see immediate results. It takes a long time.

I do not know how many of you are interested in the new program that is being promoted in Washington on an international basis called "People to People." I think that is the basic secret in all of our public relations activity. Whom do you know in other organizations? What do you know about them and their organization? What do they know about you and your services?

The whole secret of getting along with people is this science of human relations, and there is none more important in our entire activity. More can be done with a limited budget in just our daily contacts with our clients and patients than any other single effort that we could exert.

In the final analysis, good public relations, as your president explained this morning, certainly is based upon that relationship which develops on a person-to-person basis.

If we can promote within our county and state medical associations and our county and state veterinary medical associations this one philosophy of reaching our own members and encouraging them to become active participants in a program of this nature, then we are going to improve our public relations program as it is interpreted by the general public.

Putting public relations to work is a long-term operation that needs dedicated, conscientious individuals. Many things are wrong yet, many programs that we need to develop, but we are making progress. The important thing is for us to reach the other individuals within our organization and encourage them to be active participants in this medical and veterinary team that we are promoting.

# *new "far superior" treatment for retained placenta*

Therapeutic failure, frequently encountered in retained placenta, can be prevented—with new FUREA Veterinary which combines the potent wide-range bactericidal and deodorizing action of FURACIN* (brand of nitrofurazone) with the cleansing action of urea. FUREA Veterinary boluses disintegrate readily and are nonirritating and nontoxic.

In retained placenta, treatment with FUREA has produced quick improvement of the general condition of the cow with lessening or elimination of malodor. Fertility rate remained unimpaired in over 90% of treated cows.*

SUPPLIED: Each bolus contains 0.12 grams of FURACIN and 12 grams urea. Bottle of 25.

DOSE: Two boluses inserted into the recently pregnant horn. One bolus may be placed in the non-pregnant horn.

*Jones, S. V.; Belloff, G. B., and Roberts, H. D. B.: Vet. Med. 51:413 (Sept.) 1956.

**For vaginal infections, including those caused by Vibrio fetus, that may prevent conception, or cause abortion, dispense: FURACIN Suppositories Veterinary, large. Box of 12.**

**FUREA**™
VETERINARY

**AVAILABLE THROUGH YOUR PROFESSIONAL VETERINARY DISTRIBUTOR**

*new! specific!*

# investigators report

# ENTEFUR™

**AVAILABLE THROUGH YOUR PROFESSIONAL VETERINARY DISTRIBUTOR**

Now, for calf scours, "the nation's top calf killer . . ."[1] a new specific: safe, rapid-acting ENTEFUR. Highly effective, ENTEFUR produced cure rates of 93-95% compared to only 12-13% recovery in untreated controls in clinical trials.[2,3]

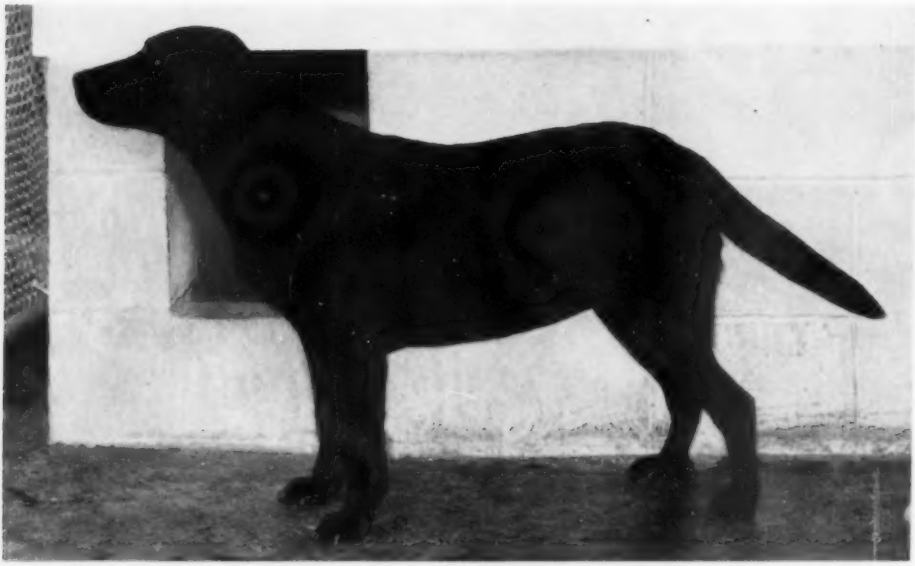
Investigators state: "Even calves with very bloody feces and moribund aspect when first seen made . . . a surprisingly rapid and complete recovery."[3] Beneficial effects are often obvious in the first 12 hours of treatment, with complete recovery after only 3 or 4 doses.[2] Calves raised on milk-substitute show a recovery rate on ENTEFUR comparable to that of nursing calves. No toxic effects have been demonstrated during administration of higher than therapeutic doses for prolonged periods.[2] Bacterial resistance does not tend to develop during treatment with the *nitrofurans* and has not been demonstrated in vitro or in vivo with ENTEFUR.

Each ENTEFUR Bolus, Veterinary, small, contains Furamazone® (brand of nifuraldezone) 1 Gm.—a new *nitrofuran*, selected for its specific bactericidal action against enteric bacteria including the virulent strains of E. coli found in calf enteritis—and bismuth subsalicylate 0.26 Gm. for its mildly astringent, antidiarrheal action.

**DOSAGE:** 1 ENTEFUR Bolus Veterinary, small, for each 150 lbs. body weight, or less, twice daily for 2 or 3 days. In most cases, 4 doses are sufficient for full recovery.

REFERENCES: 1. Segard, C.P.: Farmer's Digest, May, 1955.
2. Henry, R. T., and Blackburn, E. G.: Vet. Med., in press.
3. Bull, W. S.: N. Amer. Vet., in press.

**SUPPLIED:**
ENTEFUR Boluses Veterinary, small (3 Gm. each) are available in box containing 6 envelopes of 4 boluses each.



# This dog has never tasted meat

## ...yet is in perfect condition

Many dog experts feel that dry dog food should be supplemented by fresh meat. And the makers of Friskies recognize that the addition of meat is a widely accepted practice among dog breeders, kennel men and dog owners.

**HOWEVER,** in the case of Friskies, we've found in test after test that adding fresh meat to Friskies Meal is not necessary. Friskies in its meal form, actually supplies all the nourishment of finest fresh meat – plus the other necessary food elements, vitamins and minerals for a complete and fully balanced dog diet.

**CONTINUOUS MAINTENANCE TESTS.** The Labrador brood bitch pictured above is one of many dogs undergoing continuous maintenance tests at the Friskies Research Kennels. Fed since weaning on a diet of Friskies Meal exclusively, she is typical of four generations of dogs grown to maturity and maintained in perfect condition on this scientifically balanced dog food.

**SPLIT-LITTER TESTS.** In these special tests, half the litter is fed on Friskies Meal alone, while the other half is fed Friskies Meal with the addition of fresh meat and other foods. In no instance has any benefit been noted from the addition of supplements to the Friskies Meal diet. You can feed and recommend Friskies Meal as a complete and balanced dog food diet.

***Mixes Instantly*** – Just add water. Ready at once. Won't mush. Feeding bowl rinses clean. Complete nutrition at its best.



**FOR VARIETY**—Canned Friskies. Principal ingredient lean red horse meat including choice steaks, chops, roasts. A complete and perfectly balanced dog food.

Carnation quality products

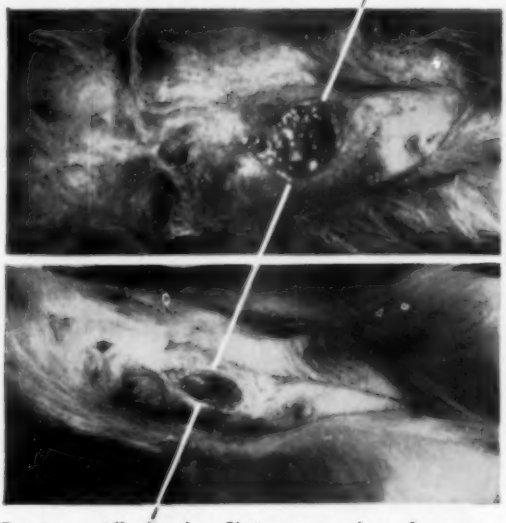
ALBERS MILLING CO., DIV. OF **CARNATION COMPANY,** LOS ANGELES 36, CALIFORNIA

For large and small animals

# TRYPTAR *vet*

ARMOUR

## for selective physiological debridement of necrotic tissue



TRYPTAR vet (Armour) may be used whenever debridement or removal of necrotic tissue is desired. It has been found to be effective in the following conditions:

- Osteomyelitis
- Surface ulcers
- Soft tissue abscesses
- Foot rot (bovine)
- Paranasal sinusitis
- Suppurative bursitis (fistulous withers)
- Suppurative arthritis
- Foot canker (equine)
- Purulent and gangrenous mastitis
- Pyometra and metritis
- Suppurative otitis
- Infected compound fractures
- Infected amputation stumps

Tryptar rapidly dissolves fibrinous strands, surface coagula and clotted blood of necrotic lesions. The purulent exudate and necrotic tissue are also attacked. When the necrotic tissue has been penetrated, serum starts to flow from adjacent healthy tissue, floating away the digested debris. The exudate becomes serous and normal-appearing leukocytes replace pathological leukocytes. With continued treatment exudation gradually ceases and fresh, healthy granulation tissue appears.

**Package information: TRYPTAR vet (Armour) is supplied as a white crystalline powder in vials containing 200,000 Armour units. It is stable indefinitely in dry form at room temperature.**

ARMOUR

**VETERINARY LABORATORIES**
A Division of Armour and Company
KANKAKEE, ILLINOIS.

# equipment news for the practicing veterinarian

NICHOLSON

## NEW! the improved Frank's Fetal Extractor

Nicholson now brings you the improved Frank's Fetal Extractor. Proved in thousands of cases, this instrument deftly assists with an infinite amount of pull on the newborn. Makes difficult OB cases almost simple. Assembles in a minute, completely portable, costs $54.45. Write for folder N-F.

## NEW! radiant heated warming panel

This electrically operated radiant heat panel eliminates messy boxes and blankets, hot pads, etc., when keeping weanlings warm, treating patients in shock. Heavily Plasti-Plated to resist stains, urine, etc. Shock-proof. 2 convenient sizes, smallest costs only $16.75. Uses 110 v. current. Write for folder N-R.

## NEW! Copon kennel paint refinishes rusty kennels


This new special plastic paint was developed for refinishing metal kennels. Gives hard, baked-enamel-like surface without baking. Makes your old rusty kennels like new. Works wonders on wood and concrete too. Can be brushed, rolled, or sprayed. Choice of colors. Write for folder N-C.

## durable, metal sheathed instrument/serum cases

Baked black enamel over steel with brass trim. 5 standard models; light weight yet built to take knocks! See folder N-1 for sizes, prices. Most are in stock, ready to ship.

## hi-current electric firing iron

Most modern, up-to-date way to fire horses, remove warty growths, ear polypi, tumors. Complete with 11 points/tips. Operates on 110 v. barn current. A superb instrument for horse practice. Write for folder N-6.

## NEW! clear plastic cases for your glass syringes

Keep syringes sterile, clean in these light unbreakable plastic cases. Covers for 5, 10 and 20 cc. syringes, $5.75 set, folder N-4 gives details.

## electric "B" dairy cow branding iron

Heats in 90 seconds, makes a clean brand, weighs only 11 ounces. T and V brands available too. Uses 110 v. current, won't smoke. Write for folder N-3.

## NEW! plastic sign letters for your office


Our new selection of beautiful weatherproof plastic signs will dress-up your office or clinic. All sizes, colors; easily installed. Write for folder N-5. We ship them ready to install with simple tools.

Please send me the folders I've checked below.

- ☐ folder N-1 cases
- ☐ folder N-2 Plasti-Plate
- ☐ folder N-3 "B" irons
- ☐ folder N-4 syringe cases
- ☐ folder N-5 sign letters
- ☐ folder N-6 firing irons
- ☐ folder N-F extractor
- ☐ folder N-R radiant panel
- ☐ folder N-C COPON paint

DVM

street

city

## NEW! do-it-yourself Plasti-Plated cages

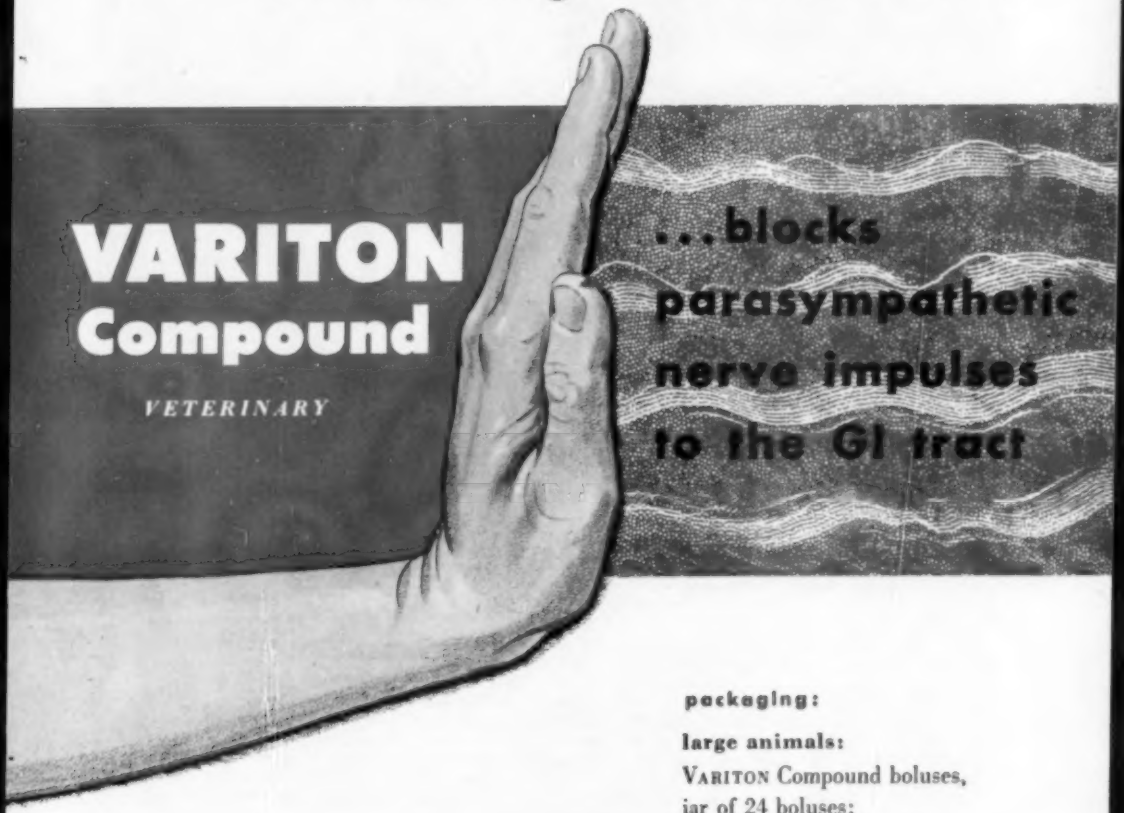
Before you buy cages, write for folder N-2 on our amazing new Plasti-Plated kennels. Rock-hard, glass-smooth, seamless surfaces. Inexpensive, easy to do-it-yourself! We supply materials and complete instructions. Will furnish complete kennels if you prefer.

**Nicholson Manufacturing Inc.**
2440 East Third Avenue Denver 6

clip and mail today

*double therapy*

*in diarrheas of animals, **both** anticholinergic and antibacterial*




the anticholinergic, **diphemanil methylsulfate**, decreases peristalsis, reduces secretions and suppresses inflammation

the antibacterial, **phthalylsulfacetamide**, penetrates all layers of the intestinal wall for more effective treatment of enteric infections

**packaging:**

**large animals:**
VARITON Compound boluses,
jar of 24 boluses;
6 jars, 24 boluses per jar.

**small animals:**
VARITON Compound Tablets
bottle of 100.

VARITON® Compound, brand of diphemanil methylsulfate and phthalylsulfacetamide.

Schering

SCHERING CORPORATION, BLOOMFIELD, NEW JERSEY

V-VT-J-117

# Let us help you keep him smiling

This little fellow is mighty familiar to you. You've seen him many times. He's the youngster who comes to you whenever his dog is sick or injured. You've seen him smile, too, when you've said, "He's all right, Son. Be good as new in a week." And we know it makes you proud of your profession.

It makes us proud, too, whenever we may, in our own small way, help you keep him smiling . . . for that is certainly one of our primary aims.

Through more than a quarter of a century of research into the dietary needs of dogs, we have developed completely nourishing Ken-L-Ration, Ken-L-Biskit, and Ken-L-Meal. And we also supply Chappel Horse Meat as a prime dietary supplement.

You can feed and prescribe these Ken-L-Products with complete confidence that they will produce healthy dogs for a satisfied clientele.

If you will examine the analysis found on each Ken-L-Products label and in the listings in this book, you will see that each food contains every nutrient *you* know is essential in the canine diet —and in the proportions you yourself would prescribe.

Ken-L-Products' complete line of foods in various sizes makes them easy to use in large kennels as well as small.

You can be sure when you suggest any Ken-L-Product to your clients that it may be readily purchased anywhere in the United States. The complete Ken-L-Products line is known and respected by millions, everywhere.

**Ken-L-Products** A Division of
THE QUAKER OATS COMPANY, CHICAGO

QUALITY DOG FOODS FOR OVER 30 YEARS

# COMPLETE THERAPY
## for mastitis in convenient dosage form

# DARIBIOTIC®-AH

(NEOMYCIN-POLYMYXIN B with ANTIHISTAMINE)

*in the "dial-a-dose" syringe*

Each 60 cc. multiple dose plastic syringe contains four doses

EACH DOSE (15 cc.) CONTAINS:

| | |
|---|---|
| Neomycin Sulfate . . . . . (Equivalent to 60 mg. Neomycin base) | 100 mg. |
| Polymyxin B Sulfate* . . . . . | 100,000 units |
| Methapyrilene HCl . . . . . in a free-flowing, milk miscible base | 200 mg. |

Daribiotic-AH, in the "dial-a-dose" syringe, is available in cartons of 6. Four mastitis tips supplied with each syringe.

*Licensed under U.S. Patent No. 2,565,057

**The S. E. MASSENGILL Company**
**veterinary division**
**Bristol, Tennessee**

**We proudly present**

***the new model***

**of our**

Electromagnetic Metal

**DETECTOR**

with both optical and acoustical

indications in an

**unbreakable plastic case**

**Smaller in size, lighter in weight but bigger in performance: 4 electronic tubes instead of 3, as in previous models, provide for deeper penetration.**

**You can regulate the extremely high sensitivity according to your needs; you can eliminate extraneous interferences to a high degree without impairing the detecting ability of the instrument. A complete elimination is, of course, impossible. The new Directions for Use contain the results of recent research with this instrument enabling you to:**

1. Pin-point the location of hardware;
2. Determine form and direction of penetration of hardware;
3. Establish the exact topographic location in the reticulum;
4. Determine whether the hardware is loose or penetrating.

Our previous models provide the same diagnostic possibilities with the new directions for use.

***Your distributor is ready to furnish all detailed information and to deliver without delay.***

DISTRIBUTORS

Albany Serum Co., Albany, Ga.
Albany Serum Co., Columbus, Ga.
Arnold Laboratories, New Castle, Ind.
Austin Laboratories, Ltd., Guelph, Ontario
Bedford Laboratories, Bedford, Pa.
Carolina Vet. Supply Co., Charlotte, N.C.
Central City Chem. Cons., San Francisco, Calif.
Central Surgical Supply Co., Fitchburg, Mass.
Columbus Serum Co., Columbus 7, Ohio
Curts Laboratories, Kansas City, Kansas
Goshen Laboratories, Inc., Goshen, N.Y.
Frank E. Lentz Co., Philadelphia, Pa.
Merritt Vet. Supplies, Inc., Sumter, S.C.
Miller Vet. Supply Co., Fort Worth, Texas
Mutual Supply Co., Nashville, Tenn.
Nelson Laboratories, Sioux Falls, So. Dak.
Northwest Vet. Supply Co., Oregon City, Ore.
Wisconsin Biological Supply Co., Madison, Wisc.
Lyle A. Wittney & Co., Inc., Denver, Colo.

***Sold to Graduate Veterinarians only***

**Sole Importer for Canada, United States, Central and South America**

# DR. S. JACKSON – IMPORT-EXPORT

**4713 Colorado Avenue, N.W., Washington 11, D.C.**

# "Much healthier...much prettier"

**Those words above are quoted** from a letter, written to us by a cat owner to describe the effect of a Puss 'n Boots diet upon her pet. Similar terms are very frequent in many letters from Puss 'n Boots customers.

Actually, what these cat owners see are the natural and inevitable results of good nutrition. Puss 'n Boots *is* good nutrition, because it is scientifically formulated to provide every nutrient a cat is known to need. The formula includes:

• **Whole Fish** (not mere fish "frames" or by-products). The fillets of the fish, with their high-quality proteins, are retained. So, too, are the liver and glands, with their valuable vitamins and minerals. Even the bone structure is made soft, crumbly and digestible, to provide cats with needed calcium.

• **Selected Cereals** are added to provide carbohydrates and roughage.

• **Extra Vitamin $B_1$** (thiamine) is added to every can of Puss 'n Boots, as a margin of safety. Regular consumption of Puss 'n Boots assures an adequate supply of this essential vitamin.

### Use and Recommend with Confidence

You can use Puss 'n Boots Cat Food yourself, and recommend it to cat-owning clients, with assurance that the nutritional benefits which it provides will be quickly perceptible, even to the layman's eye.

# PUSS 'n BOOTS

***is Good Nutrition***

**America's largest selling cat food**

**...adds the plus in health, beauty, vigor**


Coast Fisheries Division of The Quaker Oats Co. Chicago 54, Ill

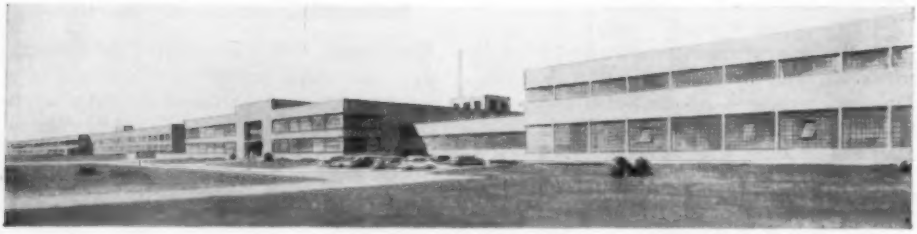
# WARNER-CHILCOTT
## now serves the veterinary profession

**with products developed exclusively for and sold only to the veterinarian**

Warner-Chilcott Laboratories is pleased to announce organization of its new DIVISION OF VETERINARY MEDICINE, with research, administrative, and production facilities located at Morris Plains, New Jersey.

1956 marks Warner-Chilcott's 100th year of service to the medical profession, producing ethical drugs and pioneering in pharmaceutical research.

**ANNOUNCING**
**a NEW nonsedative**
**animal tranquilizer**



**DIVISION OF VETERINARY MEDICINE**

*before Paxital*

*30 minutes after Paxital*

## to calm the vicious dog

Paxital, a new animal tranquilizer designed exclusively for veterinary use, produces a peaceful mental state *without sedation*. Animals remain normally responsive to surroundings. Paxital controls anxiety, nervousness and apprehension. It also appears to have a significant analgesic effect. Paxital is useful to eliminate barking and relieve nervousness or tension, especially in hospitalized animals. It is of value to reduce biting and scratching in skin conditions . . . for minor surgery when a general anesthetic is contraindicated or undesirable . . . as an adjunct in major surgery to permit smoother induction of anesthesia and an uneventful recovery (and to reduce the amount of barbiturates necessary) . . . to counteract shock and as an antiemetic.

**Dosage:** Average dose (for 20 to 30 lb. dog): *orally*—50 to 100 mg. two or three times daily, as indicated; *parenterally*—2 cc. (50 mg.) I.V., I.M. or subcutaneously. Occasionally, an additional 2 cc. may be required to obtain the desired clinical response. Tranquilization is obtained usually within 45 minutes following oral administration. Onset of action following parenteral administration is more rapid.

*Contraindications:* Hepatic diseases or disorders. Central nervous system involvement.

**Packaging:** 25 and 50 mg. tablets in bottles of 100 and 500; 2 cc. ampuls (25 mg./cc.) in boxes of 10 and 50.

*Available through your ethical veterinary distributor.*

# Paxital*

BRAND OF MEPAZINE

*TRADEMARK

**WARNER-CHILCOTT** *Laboratories*, MORRIS PLAINS, N. J.

# ask your Pfizer Distributor about the Pfizer Pandora Medical Bag

Pfizer

*available to veterinarians only*

Department of Veterinary Medicine, PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc.*, Brooklyn 6, N. Y.

## BALANCE NUTRITION PROGRAMS WITH NEW

# RIB-AD NO. 1

A PROTEIN BASE VITAMIN SUPPLEMENT

# RIB-AD NO. 2

A VITAMIN-MINERAL SUPPLEMENT*

New Rib-Ad is now better than ever for relieving or warding off deficiency problems of all four-footed animals and poultry. More palatable . . . easier to handle . . . new Rib-Ad contains *extra* high level vitamins and the critical B-complex family.

**Prescribe Rib-Ad** to help clear up "diseases" caused by vitamin and mineral deficiency, such as:
- Rough coat
- Swollen, irregular brisket
- Swollen legs and joints
- Knuckled over fetlocks
- Rickets
- Any indication of vitamin or mineral deficiency in livestock and poultry.

**Rib-Ad** helps animals to good health — then keeps them in top condition. New improved formula includes:
- Vitamin A 113,500 USP units per lb. (UP 9,180 units)
- Vitamin $D_2$ 150,000 USP units per lb. (More than doubled)
- Vitamin $D_3$ 21,300 IC units per lb.
- Riboflavin 20 milligrams per lb.
- Vitamin $B_{12}$ 133 mcg. per lb. (Newly added)

**Rib-Ad No. 2 gives you a "mineral" bonus at no extra cost — contains calcium and phosphorus, as well as 7 important trace minerals.*

*Write for new free literature*

*Order now for your clients! Available in 100 lb. drums and 25 lb. pails.*

SOLD TO VETERINARIANS ONLY

## VITAMINERAL PRODUCTS CO.

PHONES 6-6291 • 6-6921 • 1514-22 NO. ADAMS

PEORIA, ILLINOIS

MANUFACTURERS OF CALCIUM, PHOSPHORUS, TRACE ELEMENT AND VITAMIN SUPPLEMENTS

## For longer-lasting immunity against rabies

# RABIES VACCINE
(VETERINARY)

MODIFIED LIVE VIRUS, **CHICK EMBRYO ORIGIN**, LYOVAC® VACUUM-DRIED

More potent, more stable.* Although immunity is greatly prolonged, no posterior paralysis has been reported.

Tell your dog owners how to protect their families against rabies. Send for free informational leaflets, packed in bundles of 100. These leaflets recommend annual revaccination, even though experimental evidence indicates that a longer immunity is established.

RABIES VACCINE, 'LYOVAC', is supplied in single-dose, 5 single-dose and 10-dose packages with sterile diluent.

*When stored between 35 and 45 F.

MSD

MERCK SHARP & DOHME

DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

VETERINARY DEPARTMENT, U. S. VETERINARY LICENSE NO. 3

# *The WHY of the simultaneous method...*

Fort Dodge was the first producer to recommend the simultaneous method, using serum with vaccine, in hog cholera vaccination—and has consistently maintained this recommendation. Simultaneous use of Fort Dodge M·L·V and serum is your assurance that swine gain immediate, as well as lasting, protection. This is the method used and endorsed by thousands of veterinarians throughout the world. Fort Dodge Laboratories, Inc., Fort Dodge, Iowa.

**M·L·V** *The Original*

TRADE MARK

FORT DODGE ... EVERLASTINGLY IN SEARCH OF THE SURER, THE SAFER

JOURNAL
of the American Veterinary Medical Association
Established January, 1877 Chicago 5, Illinois
Vol. 130 FEBRUARY 1, 1957 No. 3


# The Importance of Psittacosis in the United States

JUSTIN M. ANDREWS, Sc.D., LL.D.
*Washington, D.C.*

I HAVE ASSEMBLED such facts as are available on psittacosis* and from these will attempt an appraisal of its relative importance as a public health problem in this country, to ascertain the effect, if any, of public health quarantine regulations on subsequent increases or decreases in its reported incidence, and to proffer some speculations of my own as to the probable future developments concerning psittacosis in the United States.

In general, health authorities base their opinions of the importance of a disease on its extent, frequency, and severity on a nationwide or regional basis; its fatality rates; the amount of disablement or incapacity which results; and the related economic costs, its comparative importance to other diseases and relative feasibility and costs of control.

## REPORTS OF PSITTACOSIS

Special difficulties are encountered in obtaining reliable reports of psittacosis because the syndrome characteristic of psittacosis is not uniquely specific for that disease. Psittacosis is one of several pulmonary infections which, from purely clinical manifestations, might be diagnosed and reported justifiably as primary atypical pneumonia, viral pneumonia, or even influenza and, therefore, is probably being under-reported. Medical attendants should remain constantly alert to the possibility that cases of pneumonitis may be due to psittacosis virus (it is evident that this is increasingly the case). In this connection, a history of recent association or contact with psittacine birds, turkeys, pigeons, ducks, or chickens should always be sought and, if found, regarded as highly suggestive that the disease is psittacosis. This is especially likely if the birds appeared to be sick or if several clinically similar cases are known to have occurred at or near the same time among persons who had common exposures to these birds.

The most reliable confirmation of a clinical suspicion of psittacosis is the isolation of proved psittacosis virus from the suspect case or, alternatively, the demonstrated rise, at last fourfold, of specific antibody titers in serums taken from the patient during the acute and convalescent or late phases of his illness. Elevated antibody titers against the antigens, commonly employed in psittacosis serology, are not themselves pathognomonic, as the virus of lymphogranuloma venereum and possibly other diseases is antigenically related to that of psittacosis. Anamnestic reactions may occur with Q fever or brucellosis, producing apparent psittacosis titers as high as 1:32.[4] Many clinical cases have been diagnosed serologically as psittacosis, although careful epidemiological investigation has failed to indicate avian sources of virus,[5] and this may lead to over-reporting the disease.

Thus, we have reason to suspect that unknown degrees of over-reporting and under-reporting psittacosis have occurred and are still occurring. Probably, both have diminished recently because of the growing interest in viral diseases and in psittacosis, and because of the increasing facilities for and the use of laboratory diagnostic confirmation.

Some sporadic and a few "related," *i.e.*, to a common source, cases of psittacosis were recorded in this country prior to 1929[6]; however, the infection seems not to have been definitely established here until infected parrots arrived from Argentina for the 1929 Christmas trade. The winter months of 1929-1930 are remembered as

Dr. Andrews is associate chief for program and chairman of the Psittacosis Board, Bureau of State Services, U.S. Public Health Service, Department of Health, Education, and Welfare, Washington, D.C.

Presented before the General Section, Ninety-Third Annual Meeting, American Veterinary Medical Association, San Antonio, Texas, Oct. 15-18, 1956.

*In accordance with usage proposed[1] before the P. H. S. Psittacosis Board, the word "psittacosis" is used in this paper to refer to (1) generalized viral infections of man derived from birds, among which parrots, parakeets, love birds, ducks, pigeons, and turkeys are important sources, and (2) the infections caused naturally by the same agents in psittacine birds. "Ornithosis," regarded as an equivalent term in the sixth revision of the "International Lists of Diseases and Causes of Death" and as a synonym in the eighth edition of the "Control of Communicable Diseases in Man,"[2] is reserved for infections of similar etiology occurring in nonpsittacine birds.

the "pandemic era" of psittacosis, as the disease appeared almost explosively in approximately 12 countries in Europe, North America, and North Africa, causing more than 750 cases in man, 143 of them fatal. In the United States, 170 cases and 33 deaths were recorded, a case fatality ratio of nearly 20 per cent.

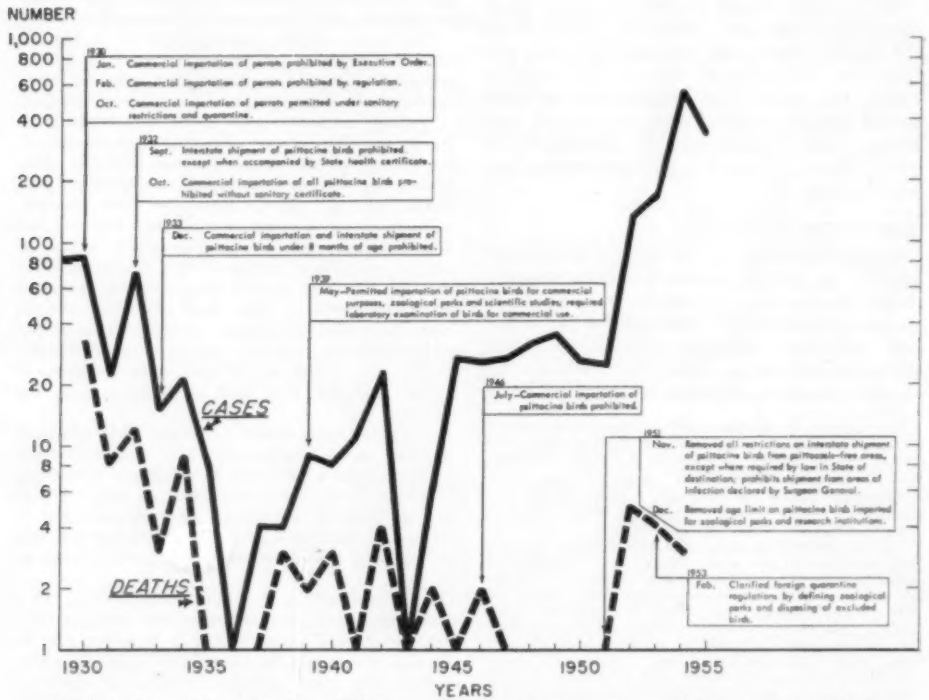
This episode abated shortly after Jan. 24, 1930, when a presidential directive prohibited the introduction of parrots from any foreign port under conditions prescribed by the Secretary of the Treasury.† This is of historic interest as it was the first instance of federal involvement in the restriction of psittacine bird traffic for the purpose of preventing psittacosis. It placed responsibility for future implementing regulations on the Surgeon General of the U. S. Public Health Service.

## MORTALITY AND MORBIDITY

The effects (1) of the subsequent foreign and interstate quarantine regulations pertaining to psittacosis, and (2) of other factors or events which may have influenced the apparent incidence or severity of the disease are analyzed (graph 1) to show the annual mortality and morbidity reported to be caused by psittacosis from all sources. This includes psittacine birds, turkeys, pigeons, ducks, chickens, other birds and, in a few instances, man.

The outstanding features of these two curves are (1) their U-shaped pattern, indicating that the numbers of cases and deaths were greater at the beginning and at the end than in the intervening portion of the 25-year period, and (2) the remarkable parallelism in the trends of psittacosis morbidity and mortality during the first half of the period in contrast to (3) their divergence during the latter half because of the steeper ascent of the case curve relative to the mortality. The disease was more likely to be fatal and was, therefore, more dangerous and more important in the 1930's than it has been during the last decade (graph 2). This undoubtedly reflects more effective medical treatment with

†Similar prohibitions were imposed at about the same time in many other nations, especially in those which had experienced epidemic psittacosis resulting, presumably, from South American parrots.



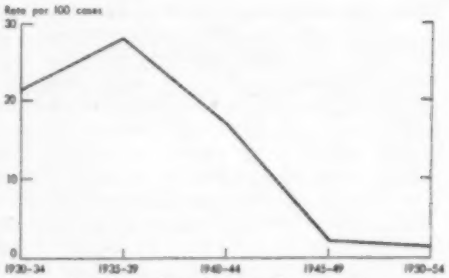

Graph 1—Reported psittacosis morbidity, mortality, and quarantine regulations in the United States, 1925-1955 (source, Public Health Service).

broad-spectrum antibiotics during the later years, and probably indicates better and earlier diagnosis. Just how much the average period of illness and convalescence has been reduced is difficult to ascertain but it is evident that the improvement has been great since the more general use of aureomycin® and terramycin® in place of sulfadiazine, penicillin, and chloromycetin.®[6]

In the earlier 1930's, only a few states were involved, mainly California which was the center of the parakeet-producing industry,[7] whereas during recent years, cases have been reported from most of the states. However, graph 1 is based on numbers, not rates and, therefore, may be misleading. To visualize the rate of incidence of psittacosis in the eight states where it was reported in 1932 (fig. 1) and in the 32 states where it was reported in 1954 (fig. 2), the year of maximal case occurrence, rates were computed using the numbers of reported cases (74 and 563) and of estimated populations in these states (31,820,000 and 130,786,000, respectively) for these years. The reported case rate per million population for 1932 was 2.3 and for 1954, 4.3. Thus, the level of reported infection with reference to population, while phenomenally low both years, was nearly twice in 1954 what it was in 1932.

## SOURCES OF INFECTION

However, the avian sources for psittacotic infection in man have changed materially since the pandemic of 1929-1930. At that time, parrots were considered to be virtually the only infectious reservoir. Within two years, it had been shown[8,9] that the smaller psittacine relatives of the true parrots, such as parakeets, were prolific disseminators of the psittacosis agent during both symptomatic and inapparent states of infection. Thus, in 1932, it is probable that nearly if not all of the reported cases in man were derived from psittacine birds of one kind or another.



Graph 2—Case fatality of psittacosis.

However, in 1940, virus of the psittacosis-lymphogranuloma group was found in domestic pigeons in South Africa[10] and in this country[11] and it was soon proved that such infections were potential sources of human disease.[12, 13] Subsequent reviews of the literature on this subject indicate that ornithosis is fairly widespread among wild and domestic pigeons in the United States.[5, 14]

In 1941, serological evidence of ornithosis was obtained in Michigan[15] ducks. Later, virus was isolated from both healthy and diseased Long Island ducks, and histories of generally mild cases of atypical pneumonia, identified serologically as psittacosis, were obtained among duck handlers in that area.[16] Preliminary information has been received regarding another outbreak caused by processing ducks in Virginia in 1956.[17]

Chickens were incriminated as reservoirs of infection for man in 1942,[18] although there have been few proved cases of transmission recorded.

Reports concerning psittacosis among turkey processors in Texas call attention to a suspected, but unproved, episode as early as 1938.[19] No less than seven authenticated epidemics involving persons concerned in dressing turkeys occurred from 1948 to 1956 in that state.[17, 19, 20] Also, during 1954, 17 cases occurred in New Jersey[21] and were attributed to contact with infected turkeys. A

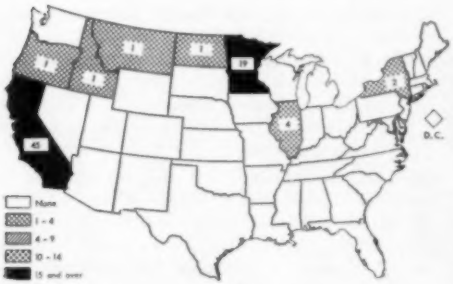


Fig. 1—Reported cases of psittacosis, 1932.

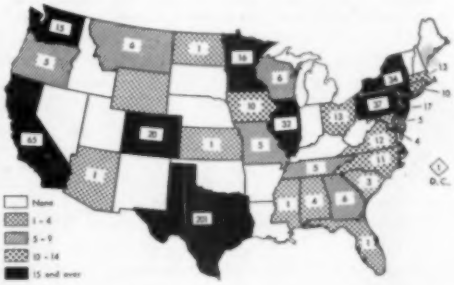


Fig. 2—Reported cases of psittacosis, 1954.

TABLE 1—Probable Source of Psittacosis Infection, 1954

| Occupation | Source of infection: Psittacine birds | Turkeys | Chickens | Others | Total |
|---|---|---|---|---|---|
| Aviarist | 25 | .... | .... | 1 | 26 |
| Pet dealer | 18 | .... | .... | .... | 18 |
| Pet owner | 44 | .... | .... | .... | 44 |
| Poultry processing | .... | 200 | 1 | .... | 201 |
| Casual contact | 75 | .... | 33 | 4 | 112 |
| Not reported | .... | .... | .... | .... | 162 |
| Total | 162 | 200 | 34 | 5 | 563 |

TABLE 2—Probable Source of Psittacosis Infection, 1955

| Occupation | Source of infection: Psittacine birds | Turkeys | Chickens | Others | Total |
|---|---|---|---|---|---|
| Aviarist | 6 | .... | .... | .... | 6 |
| Pet dealer | 27 | .... | .... | .... | 27 |
| Pet owner | 92 | .... | 1 | 3 | 96 |
| Poultry processing | .... | 3 | 3 | .... | 6 |
| Casual contact | 4 | .... | 1 | 2 | 7 |
| Not reported | .... | .... | .... | .... | 191 |
| Total | 129 | 3 | 5 | 5 | 333 |

laboratory technician handling infectious material is believed to have died from psittacosis. In 1955, three cases of psittacosis in man were reported among the workers in an Iowa turkey-processing plant. Serological studies based on a small number of turkeys were negative, although blood from turkeys in other parts of the state was positive.[23]

Strains of turkey ornithosis virus, with positive serological findings in the birds, were isolated in 1955 in both Michigan[22] and California,[24] but no cases in man derived from them have been reported. In contrast to the extreme virulence usually manifested by turkey strains of ornithosis agents, these appear to be of low orders of pathogenicity.

An important epidemic of turkey-borne psittacosis in man occurred in Oregon in March, 1956.[25] Preliminary information indicates that over 50 cases** have been attributed to contact with diseased flocks or to processing birds from such flocks. This is the first instance in which psittacosis has been recognized in persons engaged in the production rather than the dressing of turkeys. Infectious aerosols were collected in and near a plant engaged in rendering offal from the infected flocks;[26] workmen in the plant were apparently infected from this source. A single case of psittacosis is reported in a rendering plant worker, in Washington, in 1956,[27] where turkey carcasses were being processed.

From this resumé, it is evident that nonpsittacine, in addition to psittacine, birds are playing an increasing role as reservoirs and in transmitting virus to man. Thus, in 1954 (table 1) 200 of 563 cases of psittacosis were traced to turkey sources. The proportion was less in 1955 (table 2). Until Oct. 1, 1956, 35 of 410 cases have been reported to be connected with infected turkeys.

The ratios of psittacine and nonpsittacine sources to total infection sources of 50 per cent of the psittacosis cases in man reported during the last five years, on which epidemiological observations were made in various states, are shown (table 3). Of the 808 cases investigated, 55 per cent were found to be of psittacine origin. In a similar tabulation for 1945-1952,[28] of 458 cases, 41 per cent were ascribed to psittacine origin. Thus, it appears that not only the number but the proportion of cases in man due to psittacine birds may have increased slightly in recent years. It is of interest that of the 360 cases (table 3) ascribed to contact with nonpsittacine birds, the most important source during four of the last five years was turkeys, the percentage by years being 95, 80, 85, 37, and 80.

Other factors and circumstances which may have tended to reinforce or nullify the influence of the Public Health Service quar-

**Later information supplied by Dr. Don Mason indicates that at least 86 persons showed infection.

TABLE 3—Reported Psittacosis Cases in the United States, 1952-1956, by Source of Infection (Source, Public Health Service)

| Year | Cases reported | Totals | Ratios of investigated to reported cases | Cases investigated re source: Psittacine source No. | Psittacine source: Ratios of psittacine sources to total cases investigated | Other sources No. | Other sources: Ratios of other sources to total cases investigated |
|---|---|---|---|---|---|---|---|
| 1952 | 135 | 95 | 70% | 31 | 33% | 64 | 67% |
| 1953 | 169 | 54 | 32% | 44 | 81% | 10 | 19% |
| 1954 | 563 | 396 | 70% | 162 | 41% | 234 | 59% |
| 1955 | 333 | 137 | 41% | 129 | 94% | 8 | 6% |
| 1956 (9 mo.) | 410 | 126 | 31% | 82 | 65% | 44 | 35% |
| Total | 1,610 | 808 | 50% | 448 | 55% | 360 | 45% |

antine regulations should not be overlooked. The fairly abrupt declines in the trends of reported morbidity and mortality caused by psittacosis during the five years after the pandemic era (graph 1) probably resulted, in large part, from the spate of regulations issued from 1930 to 1933. But it is also probable that the economic depression augmented their effect by reducing the market for parrots and parakeets. However, regulations did not continue to maintain the low levels of psittacosis cases and deaths reached in 1936; the morbidity curve later continued to climb upward, its trend being interrupted only in 1942-1944. Undoubtedly, there is a direct relationship between this hiatus and such wartime exigencies as population transiency and the shortage of medical personnel for diagnosing, treating, and reporting communicable diseases.

## CONTROL MEASURES

In the meanwhile, extended observations on commercial lots of imported psittacine birds detained for observation had shown conclusively that mere quarantine was not a dependable control measure.[28,29] Consequently, in 1946, the commercial importation of all psittacine species was prohibited. This restriction appears to have had little, if any, immediate effect; the reported level of psittacosis in man remained relatively static during the postwar years until 1951.

In that year, at the recommendation of the Association of State and Territorial Health Officials,[30] the Public Health Service removed virtually all restrictions on the interstate movement of psittacine birds. This important change was proposed because experience had shown the infeasibility of enforcing the existing interstate traffic restrictions, and it was felt that psittacosis had become a relatively unimportant health consideration since antibiotic therapy had reduced its morbidity and mortality, especially the latter. Furthermore, many of the states had developed regulations of their own aimed at the control of this disease.

However, this relaxation had the effect of facilitating the development and exploitation of a nation-wide market for domestically raised and illegally imported parakeets. Reports of psittacosis increased immediately and reached a maximum in 1954. Part of this rise was caused by disease contracted from nonpsittacine sources (table 3), but most of the increase was due to enhanced association between man and infected psittacine birds. In their haste to take advantage of the boom market, some producers—especially amateurs—raised birds in crowded and filthy situations. Different lots and species of psittacine birds were mixed in transit and in holding depots. International smuggling occurred under conditions which revealed a disregard for the health or even the survival of living creatures. These practices created opportunities for the inevitable dissemination of virus and for the physiological stress and strain conducive to debilitating infection and loss of birds.

It has been estimated that the number of pet birds in the United States increased from 3 to 15 million from 1940 to 1953. The increase in psittacine birds was certainly as great, if not greater, than in the total number of pet birds. If this is reasonably correct, we may infer that the psittacine population of this country has increased since the pandemic era many more times than have the reported psittacosis attack rates—a most encouraging conclusion.

## COMPARED WITH OTHER DISEASES

The relative importance of psittacosis with respect to other diseases is shown (table 4) for 1954, the year it was most prevalent. It is compared with the estimated numbers of cases and the actual numbers of deaths certified to be due to diseases and disabilities which are generally regarded as of major concern from a public health standpoint.

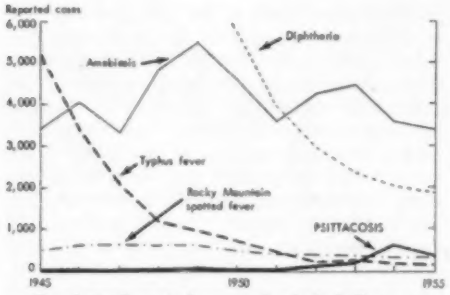
TABLE 4—Selected Causes—Diseases and Disabilities, 1954

| Causes | Estimated cases | Deaths |
|---|---|---|
| Heart disease | 10,000,000 | 560,077 |
| Cancer | 800,000 | 234,669 |
| Accidents | 13,500,000* | 90,032 |
| Influenza and pneumonia | (Not known) | 40,991 |
| Diabetes | 2,000,000 | 25,151 |
| Chronic nephritis | 930,000 | 17,073 |
| Psittacosis | 563† | 3 |

*Disabling injuries, annual. †Reported.

The trends of reported annual occurrence of psittacosis and of other communicable diseases which, like psittacosis, are susceptible to vagaries in reporting are also shown (graph 3).

In all of these graphic representations, it is evident that, from a national standpoint, psittacosis can not be considered a health




Graph 3—Reported cases of selected diseases.

problem of great prominence in comparison with various other diseases, even if the numbers of reported cases of psittacosis were to be doubled or tripled to compensate for under-reporting.

This does not mean that psittacosis is of no importance to the person who is suffering with it, to his physician who must correctly diagnose and treat the case, or to the public health officer and his medical and veterinary epidemiologist who are obliged to cope with flurries of cases of a disease still associated in the emotional and highly retentive public mind with the highly fatal "parrot fever" of the early thirties. Least of all should psittacosis be treated with disrespect or even disregard by commercial producers or distributors of psittacine or any other kind of birds which can be the reservoirs of a disease which can be deadly.

## PUBLIC HEALTH ASPECTS

Biologically, we are apparently dealing with a group of related agents which is widely disseminated in nature although, from a public health standpoint, we are concerned at present only with psittacine birds and poultry; this means chiefly parakeets and turkeys. Because of the chameleon-like qualities of psittacosis virus and the unpredictable tastes of mankind with respect to his pets, the situation might change markedly in the future. As far as the future is concerned, I am less apprehensive about the public health aspects of psittacosis from psittacine birds than from turkeys, even though cases from the latter source are now less numerous. My reasons are: I believe that the more important and influential constituents of the pet bird industry are more aware of the epidemic potentialities of psittacine bird distribution than they were previously as a result of the pandemic era. The industry seems to be increasingly organized and self-directed to the philosophy that it is just as important to the public that birds offered for sale not be sources of infection to man as it is to the producers that the birds be sold at a profit. These objectives are not incompatible and should be sought by all ethical producers and distributors. I am hopeful that they will take the necessary steps to police their own industry. I regard this as a more satisfactory and effective regulatory procedure than the prohibitions and restrictions of government at any level.

Enough is known about the sanitation, chemotherapy, and immunology of psittacosis to justify the opinion that parakeets could be mass-produced and sold on a certified inspection-free basis, *i.e.*, by an approved blood test for each bird so labelled, and that they would remain free from virus as long as the bird owners complied faithfully with the vendor's directions concerning avoidance of contact with other birds or bird-contaminated materials.

My apprehensions about turkey ornithosis and human psittacosis derived from this source are based more on our present lack of knowledge regarding this complex infection system than on any reluctance or inability of the turkey breeders, processors, and distributors to do something about it. Turkey ornithosis appears to be a fairly recent occurrence. Research and development agencies, which normally would concern themselves with solving the problems thus created, are only now beginning to produce useful information concerning them.

We do not know the total dimensions or distribution of turkey ornithosis. We do not know (1) whether this is an ancient infection of turkeys which has remained benign and unrecognized and has lately become more pathogenic possibly as a result of changed production processes, or (2) if it is a strain of virus new to turkeys which is being acquired from domestic fowl or wild birds. Nor do we know how the agent is transmitted from bird to bird, how long virus can remain infectious in the soil on which turkeys have been raised, or what can be done to sterilize contaminated soil or premises. With respect to transmission to man, evidence suggests that the inhalation of infectious aerosols is of importance. Cases have occurred in turkey processors, in producers, and in rendering-plant workers. We know of no cases among persons

concerned in the preparation of turkeys for cooking, but this possibility should be faced and investigated. There is reason to believe that normal cooking destroys virus. Freezing is a recognized method of preserving many viral agents, and psittacosis has been recovered from frozen turkey carcasses.[31]

Much remains to be learned about the virology, epizoology, epidemiology, and the prevention of ornithosis in turkeys and of psittacosis in man from this source. The problems involved are complex but they should be solvable if the various medical, veterinary, health, and other organizations work together and keep each other informed of progress.

Perhaps the most encouraging approach with which to attack psittacosis in psittacine birds or ornithosis in turkeys is antibiotic therapy. The same group of tetracycline antibiotics that has been found effective in treating psittacosis in man is also potent, either in feed or by parenteral adminstration, against the infection in psittacine birds and in turkeys.[32-34] The therapeutic and prophylactic possibilities of vaccines should also be reexplored in view of the propagation of psittacosis virus in tissue cultures.[35,36]

In the application of any of these procedures, the practicing veterinarian will have much to do in the control of the disease in pet birds and in turkey flocks. More information must be acquired in controlled experiments to learn the most effective compounds and materials, therapeutic regimens, and methods of administration. It is imperative, from a public health standpoint, that treatment be carried not only to the point of the suppression of overt clinical signs and gross pathological changes, but to the complete disinfection of the bird so that it no longer sheds virus and does not become a symptomless or healthy carrier. This would complicate the situation. If psittacotic agents become resistant to antibiotics, more research will be necessary.

The persistence of government, universities, industry, and other agencies where research may be performed, working together with organized medical and veterinary practice, can develop and apply constructive answers to the problems which have arisen and those which will face us in the future.

In conclusion, I have presented my views regarding (1) the status of psittacosis as a health problem, which I do not regard, except in very special situations, as major at present; (2) the effect of government regulations on the occurrence of psittacosis which I believe to have been variable; and (3) future developments of this disease which can be, as I see it, favorable or otherwise according to the enterprise and persistence of government, universities, industry, and other agencies under whose aegis research may be carried on, working together with organized medical and veterinary practice to develop and apply constructive answers to the problems which have arisen and those which will face us in the future.

### References

[1]Meyer, Karl F.: Consultant, the George Williams Hooper Foundation, University of California Medical Center, San Francisco, Calif.

[2]WHO: International Lists of Diseases and Causes of Death. 6th ed. Manual of the World Health Organization, Supplement 1, 1948.

[3]Control of Communicable Diseases in Man, an Official Report of the American Public Health Association. 8th ed. American Public Health Association, New York, N. Y., 1955.

[4]Meyer, K. F.: Ornithosis and Psittacosis. In "Diseases of Poultry," H. E. Biester and L. H. Schwarte (ed.). 3rd ed. Iowa State College Press, Ames (1952): 569-618.

[5]Davis, Dorland J.: Psittacosis in Pigeons. In "Psittacosis: Diagnosis, Epidemiology, and Control," F. R. Beaudette (ed.). Rutgers University Press, New Brunswick, N. J. (1955): 66-74.

[6]Cox, Herald R.: Chemotherapy of Psittacosis. In "Psittacosis: Diagnosis, Epidemiology, and Control," F. R. Beaudette (ed.). Rutgers University Press, New Brunswick, N. J. (1955): 137-155.

[7]Surgeon General, U. S. Public Health Service. Annual Report (1933): 42.

[8]Armstrong, Charles: Psittacosis: Epidemiological Considerations with Reference to the 1929-30 Outbreak in the United States. Pub. Health Rep., *45*, (1930): 2013-2023.

[9]Meyer, K. F., and Eddie, B.: Latent Psittacosis Infections in Shell Parakeets. Proc. Soc. Exptl. Biol. and Med., *30*, (1933): 484-488.

[10]Coles, J.D.W.A.: Psittacosis in Domestic Pigeons. Onderstepoort J. Vet. Sci. and Anim. Indust., *15*, (1940): 141.

[11]Pinkerton, H., and Swank, R. L.: Recovery of Virus Morphologically Identical with Psittacosis from Thiamine-Deficient Pigeons. Proc. Soc. Exptl. Biol. and Med., *45*, (1940): 704.

[12]Meyer, K. F.: Pigeons and Barnyard Fowl as Possible Sources of Human Psittacosis or Ornithosis. Schweiz. med. Wchnschr., *71*, (1941): 1377.

[13]Meyer, K. F., Eddie, B., and Yamamura, H. V.: Ornithosis (Psittacosis) in Pigeons and Its Relation to Human Pneumonitis. Proc. Soc. Exptl. Biol. and Med., *49*, (1942): 609.

[14]Shaughnessy, Howard J.: Psittacosis in Wild Pigeons. In "Psittacosis: Diagnosis, Epidemiology, and Control," F. R. Beaudette (ed.). Rutgers University Press, New Brunswick, N. J. (1955): 90-99.

[15]Eddie, B., and Francis, I., Jr.: Occurrence of

Psittacosis-like Infection in Domestic and Game Birds of Michigan. Proc. Soc. Exptl. Biol. and Med., *50*, (1942): 29.

[16]Korns, Robert F.: Psittacosis in Ducks and Persons Exposed to Ducks. In "Psittacosis: Diagnosis, Epidemiology, and Control," F. R. Beaudette (ed.). Rutgers University Press, New Brunswick, N. J. (1955): 80-90.

[17]Anon.: Morbidity and Mortality. Weekly report, U. S. Department of Health, Education, and Welfare, 1956.

[18]Meyer, K. F., and Eddie, B.: Spontaneous Ornithosis (Psittacosis) in Chickens the Cause of a Human Infection. Proc. Soc. Exptl. Biol. and Med., *49*, (1942): 522.

[19]Irons, J. Vernal, Denley, Malcolm L., and Sullivan, Thelma D.: Psittacosis in Turkeys and Fowls as a Source of Human Infection. In "Psittacosis: Diagnosis, Epidemiology, and Control," F. R. Beaudette (ed.). Rutgers University Press, New Brunswick, N. J. (1955): 44-66.

[20]McCulloh, Albert: An Epidemic of Psittacosis in Poultry Workers—Clinical Evaluation and Treatment. Texas State J. Med., *51*, (1955): 817-821.

[21]Anon.: Studies in Zoonoses. Pneumonitis Linked to Turkeys. Pub. Health Rep., *71*, (1956): 293-294.

[22]Anon.: Ornithosis in Iowa. Iowa State Department of Health., Jan. 7, 1956.

[23]Mack, W. N.: The Isolation of Ornithosis Virus (Psittacosis) from a Turkey in Michigan. MSU Vet. *16*, (1955): 12.

[24]Anon.: Morbidity and Mortality. Weekly report, U. S. Department of Health, Education, and Welfare, No. 1, 1956.

[25]Anon.: Morbidity and Mortality. Weekly report, U. S. Department of Health, Education, and Welfare, No. 10, 1956.

[26]Spendlove, J. Clifton: Bacterial Aerosols in a Rendering Plant. Dugway Proving Ground Special Report, 1956.

[27]Anon.: Morbidity and Mortality. Weekly report, U. S. Department of Health, Education, and Welfare, No. 39, 1956.

[28]Meyer, K. F., and Eddie, B.: Psittacosis—Past, Present, and Future. All Pets Magazine. Fond du Lac, Wis., June and July, 1953.

[29]Dunnahoo, G. L., and Hampton, Brock C.: Psittacosis—Occurrence in the United States and Report of 97 Percent Mortality in a Shipment of Psittacine Birds While Under Quarantine. Pub. Health Rep., *60*, (1945): 354-357.

[30]Surgeon General, Public Health Service, and the Chief, Children's Bureau with State and Territorial Health Officials. Proc. Forty-Ninth Ann. Conf. (Oct. 23-27, 1950): 86-87.

[31]Report to Food and Drug Administration of Isolations Made by the Virus and Rickettsia Section, Laboratory Branch, Communicable Disease Center, Department of Health, Education, and Welfare.

[32]Bankowski, R. A.: Incidence, Diagnosis and Control of Ornithosis in Turkeys. Anim. Health Inst. Proc., *15*, (1955): 70-84.

[33]Davis, D. E., and Delaplane, J. P.: Ornithosis in Turkeys. Proc. Book, AVMA (1955): 296-301.

[34]Meyer, K. F., and Eddie, B.: Chemotherapy of Natural Psittacosis and Ornithosis Field Trial of Tetracycline, Chlortetracycline, and Oxytetracycline. Antibiot. and Chemotherap., *5*, (1955): 289-299.

[35]Hare, John D., and Morgan, Herbert R.: Studies on the Factors Essential to the Initiation and Maintenance of Multiplication of Psittacosis Virus (6 BC Strain) in Deficient Cells in Tissue Culture. J. Exptl. Med., *99*, (1954): 461-479.

[36]Morgan, Herbert R.: Latent Viral Infection of Cells in Tissue Culture. I. Studies on Latent Infection of Chick Embryo Tissues with Psittacosis Virus. J. Exptl. Med., *103*, (1956): 37-47.

---

*Human Psittacosis from Ducks.*—When 20 of 30 employees on a duck farm developed an illness suggestive of psittacosis, all had complement-fixation titers of 1:16 or greater. Of 20 breeding ducks tested, 15 were positive.—*Pub. Health Serv., Nov. 1, 1956.*

---

Four cases of psittacosis, with one death, occurred in a family of persons exposed to 2 apparently healthy parakeets. There was serological evidence of the disease in three of the four patients and the virus was isolated from the lungs of the one who died and from 1 parakeet.—*J.Am.M.A., Nov. 17, 1956.*

---

*Zinc Is Poisonous for Hens.*—When a poultryman suspected zinc poisoning from the water container, zinc sulfate was added to the drinking water, experimentally, for laying hens at a level of 1 per cent for 23 days. Their water consumption remained normal for three days, then decreased drastically. They stopped laying after six days, then resumed laying shortly after the zinc was discontinued. Their average weight dropped from 4.01 lb. to 3.6 lb. after ten days.—*N. J. Agric., July, 1956.*

---

*Milk Buying Habits Are Changing.*—A study in several large cities indicated that homogenized milk was gaining in popularity, sales at special dairy stores and supermarkets were replacing home deliveries, the use of paper containers was increasing although more milk was still sold in glass containers and, while most of the milk was sold in quart containers, the use of half gallon and gallon containers was increasing. In some public eating places, bulk dispensers were replacing half-pint containers.—*News Serv., Rutgers Univ., Oct., 1956.*

# Ornithosis in Oregon Turkeys

E. M. DICKINSON, D.V.M., M.Sc.; W. E. BABCOCK, D.V.M., M.Sc.;
J. G. KILIAN, D.V.M.

*Corvallis, Oregon*

ORNITHOSIS (psittacosis) has become an increasingly important occupational public health hazard since 1948, when turkeys were suspected[3] as a source of an ornithosis infection that occurred in workers employed in a turkey-processing plant. Since the series of outbreaks in human beings and turkeys in Texas, in 1954, no further cases had been encountered up to the time it was reported[1] in 1955. Although serological studies have tentatively identified ornithosis in turkeys in a number of different states, only a few states have reported diagnosis based on virus isolation. A comprehensive report[4] on ornithosis lists a large number of birds, mostly free-flying species, from which the virus has been isolated.

This discussion is to report on the diagnosis of ornithosis, by virus isolation, in two flocks of Oregon turkeys.*

## FLOCK HISTORIES

*Flock 1.*—This flock consisted of 1,792 Broad-Breasted Bronze turkeys that were selected for breeders. On Nov. 15, 1955, 4 hens, 6 months old, were submitted to the Poultry Disease Laboratory at Oregon State College for necropsy. There had been a few sudden deaths of birds in good condition with no prior period of illness. At necropsy, hemorrhagic enteritis, visceral congestion, and congestion of the lungs with fibrinous exudate in the air sacs were revealed. Bacteriological cultures were made with samples of heart blood and visceral tissue. Histories of erysipelas and Pasteurella infections in turkeys on this farm in previous years prompted a tentative diagnosis of fowl cholera; treatment with sulfaquinoxaline was recommended.

Although the mortality subsided following treatment, 16 tibias from turkeys that had died were submitted on November 22, since it was suspected that erysipelas may have been complicating the problem. The bacteriological cultures did not confirm this tentative diagnosis and, since losses had stopped, it was felt we had merely missed the suspected Pasteurella infection.

On Jan. 14, 1956, one turkey tibia was received for bacteriological examination but no organisms were recovered.

On February 9, a field serviceman brought 11 tibias for examination and reported that losses had picked up and that sulfaquinoxaline treatment did not seem effective. Since the examination of tibias had been negative, it was suggested that sick or dead birds be brought in for more complete examination.

On February 23, 6 dead birds were received. All showed an extensive fibrinous pericarditis and epicarditis, as well as pneumonia and air sac infection. Numerous bacteriological cultures were made with tissues and exudates from the infected birds. Tissues and exudates were also taken to be held in the dry-ice box for further study.

On February 27, a report from the Oregon Public Health office of a suspected case of ornithosis in a man who worked on a turkey farm directed attention to this factor as a cause for the losses. Mice were injected with inoculum prepared from the frozen tissues. One group of mice received the inoculum untreated and a second group received it after it had been treated with penicillin and streptomycin. The first mouse died about four days after inoculation; material from this mouse was used to reinoculate a second series of mice. All inoculated mice were dead or moribund by the sixth day and all showed pneumonia, visceral congestion, and a plastic fibrinous exudate over the surface of the viscera. Impressions of this exudate stained with Macchiavello's or Giemsa's stain demonstrated typical ornithosis inclusion bodies in abundance.

*Flock 2.*—This flock consisted of 6,413

From the Department of Veterinary Medicine, Oregon State College, Corvallis.

Presented before the combined Sections on Poultry and Public Health, Ninety-Third Annual Meeting, American Veterinary Medical Association, San Antonio, Texas, Oct. 15-18, 1956.

The authors thank Dr. B. Eddie of the George Williams Hooper Foundation, University of California Medical Center, for helpful suggestions and for confirmation of their diagnosis.

*Drs. M. A. Holmes and D. M. Mason, U. S. Public Health Service, have made comprehensive epizoological studies of these two outbreaks, as well as a third, in Oregon turkeys.

Broad-Breasted Bronze turkeys that had been selected as breeders. On Jan. 31, 1956, a dead turkey hen and a tibia from each of 6 other dead turkeys were received by express. Since erysipelas had been a problem on this place in the past, all of the birds had been inoculated with erysipelas bacterin. However, the owner suspected erysipelas because of the cyanotic skin of the dead birds. Bacteriological examination of the tibias yielded no growths. The dead bird showed fibrinous pericarditis and epicarditis and visceral congestion. A tentative diagnosis of pasteurellosis was again made and treatment with sulfaquinoxaline was advised. By the time bacteriological examinations were found to be negative, the losses had stopped.

On February 9 (*see* same date, flock 1), a field serviceman brought nine tibias to the laboratory for examination. Losses had started again. When bacteriological examination was negative on these specimens, it was advised that, if losses continued, the whole dead bird be submitted.

On March 9, 6 dead turkeys were brought to the laboratory for examination. All 6 showed a severe fibroplastic pericarditis and epicarditis, visceral congestion, and a fibrogelatinous exudate on the liver. Impressions made on this exudate and stained with Macchiavello's stain revealed ornithosis inclusion bodies in abundance in the cells. Inoculum prepared from tissues and exudate from these birds was injected into mice. All of the mice were dead in four to six days. Lesions in the dead mice were typical of ornithosis and impressions of the exudate stained with Macchiavello's stain revealed typical ornithosis inclusion bodies in the cells.

## DISCUSSION

The source of the infection that started these two outbreaks probably will remain a mystery. Although the two ranches are many miles apart by road, they are probably no more than 1 or 2 miles apart by air. Both ranches are in an area that is heavily populated with water fowl, migratory as well as those that are indigenous, such as gulls. To the authors, these birds seem to be the most likely possibility as carriers, and it is felt that some effort should be directed toward studying the epizootiological significance of these birds in such outbreaks.

If it is assumed that ornithosis was present in flock 1 in November, 1955, one could not help but be impressed with the slow course of the disease, since it was not until February that the greatest number of birds were affected and the daily mortality reached a high level.

This experience has emphasized the need, in diagnostic laboratories, of inoculating mice or chicken embryos with tissues and exudates from any suspected cases of ornithosis.[2]

## SUMMARY

Two cases of ornithosis in Oregon turkeys have been diagnosed by mouse inoculation. The similarity of lesions of pasteurellosis and ornithosis emphasize the importance of animal inoculations and bacteriological studies on all suspected cases in order to establish an accurate diagnosis.

### References

[1]Davis, D. E., and Delaplane, J. P.: Ornithosis in Turkeys. Proc. Book, AVMA (1955): 296-301.

[2]Hudson, C. B., Bivins, J. A., Beaudette, F. R., and Tudor, D. C.: Use of Chicken Embryo Technique for Diagnosis of Psittacosis in Avian Hosts, with Epidemiological Notes. J.A.V.M.A., *126,* (1955): 111-117.

[3]Irons, J. V., Sullivan, T. D., and Rowen, J.: Outbreak of Psittacosis (Ornithosis) from Working with Turkeys or Chickens. Am. J. Pub. Health, *41,* (1951): 931-937.

[4]Meyer, K. F.: Ornithosis and Psittacosis. In "Diseases and Parasites of Poultry," H. E. Biester and L. H. Schwarte (ed.). 3rd ed. Iowa State College Press, Ames (1952): 569-618.

## Ornithosis in Man in Oregon

Of 13 workers on a turkey farm where many birds had died of ornithosis, two were ill, one dying on Feb. 22, 1956. Since the body was embalmed, specific tests were not possible but lesions were compatible with ornithosis. Complement-fixation tests of eight who were not ill were negative. Of nine workers on the other affected turkey farm, three were ill; when tested, one was positive and two gave probable reactions for ornithosis. Of 38 employees at the rendering plant where dead turkeys from both farms were taken, 70 per cent (5 confirmed, 21 probable) had ornithosis. In a private home where some of the well turkeys were processed, the husband died with a severe pneumonic infection (the ornithosis agent was isolated), the wife had recovered but had a positive titer, and the worker had a titer rise from 1:2 to 1:32 during his illness.

During May, 19 of 102 workers, in a

plant where apparently healthy turkeys from a third nearby farm were processed, developed signs of ornithosis. Complement-fixation tests were positive for ornithosis in seven of the 19. Of 86 persons in the region who became ill (2 deaths), five worked on turkey farms, 52 were employed as poultry processors, and 29 were employed in a rendering plant. Hospitalization was required by 28, sometimes for several weeks, 32 were confirmed and 54 were probable cases of ornithosis. The average illness was for 17.8 days. The infection was believed to have been chiefly air-borne since many affected persons did not have physical contact with the turkeys.—[*Harold M. Erickson, Samuel B. Osgood, and Monroe A. Holmes: The Public Health Significance of Ornithosis (Psittacosis) in Poultry. Conference of Public Health Veterinarians, Nov. 15, 1956.*]

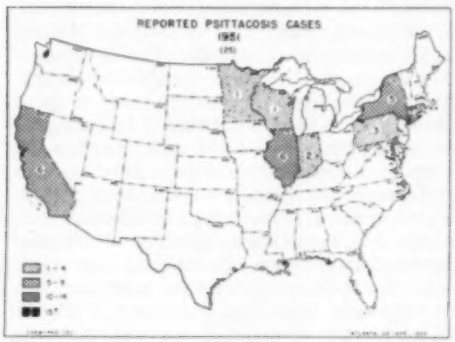
*Ornithosis in the Petrel.*—The psittacosis virus was isolated from 2 short-tailed shearwaters (mutton birds) in Australia. Serological tests suggest that the infection is widespread in this species and may be the cause of a heavy mortality which sometimes occurs during their annual southern migration.—*Vet. Bull., Nov., 1956.*

---

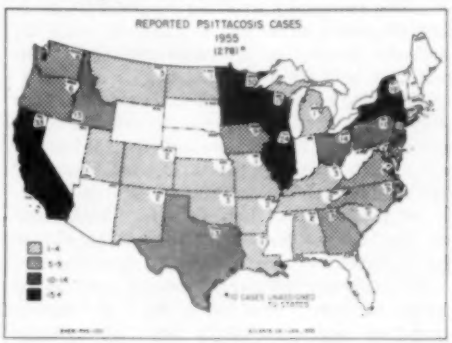
*Psittacosis from Pigeons.*—A woman in Rhode Island became ill, apparently with typical pleurisy. Radiograph and laboratory findings were negative except that a four-fold rise in complement-fixation titer for psittacosis occurred. Her only contact with birds was from numerous pigeon droppings outside her window. This was the probable source of infection.—*Pub. Health Serv., Dec. 20, 1956.*

---

## Further Statistics on Ornithosis (Psittacosis)




Map 1




Map 2

Maps 1 and 2, and table 1 were used by Dr. James Steele with his remarks as chairman of the Symposium on Ornithosis presented before the combined Sections on Poultry and Public Health at the Ninety-Third Annual Meeting of the AVMA in San Antonio, Oct. 15-18, 1956. They are presented here as a supplement to the Articles by Andrews (pp. 109-116) and Dickinson *et al.* (pp. 117-118).

TABLE I—Cases of Psittacosis in Man by Exposure Groups and Sources of Infection—1954*

| Exposure groups | Parakeets | Other pet birds | Chickens | Turkeys | Wild birds | Source not specified | Totals |
|---|---|---|---|---|---|---|---|
| Aviaries | 25 | 1 | --- | ----- | --- | ----- | 26 |
| Pet dealers | 18 | --- | --- | ----- | --- | ----- | 18 |
| Pet owners | 44 | --- | --- | ----- | --- | ----- | 44 |
| Poultry processors | --- | --- | 1 | 200 | --- | ----- | 201 |
| Miscellaneous | 75 | 2 | 33 | ----- | 2 | ----- | 112 |
| Group not specified | --- | --- | --- | ----- | --- | 160† | 160 |
| Laboratory infections | --- | --- | --- | ----- | --- | 2** | 2 |
| Totals | 162 | 3 | 34 | 200 | 2 | 162 | 563 |

*The first year in which turkey ornithosis was reported is 1948.
†Many of these are attributed to parakeets. **One of these is due to contact with experimental animals.

# The Federal Poultry Inspection Program

ROY E. WILLIE, D.V.M.

*Washington, D.C.*

THE FEDERAL poultry inspection program is one of three service programs of the Poultry Division, Agricultural Marketing Service. In order that you may have a better understanding of the functions of the Poultry Division, I should like to briefly describe the three branches of the division and explain their responsibilities.

The Standardization and Marketing Practices Branch is responsible for the development of inspection and grading standards and specifications for eggs, poultry, poultry products, domestic rabbits, container standards, processing facility and equipment standards as they relate to the inspection and grading service, and improvement of marketing standards.

The Grading Branch is responsible for carrying out the service programs involving the voluntary grading of poultry, poultry products, shell eggs, domestic rabbits, and the inspection of processed eggs such as dried and frozen-liquid eggs.

The Inspection Branch is responsible for carrying out the service program involving the voluntary inspection for wholesomeness of poultry, poultry products, and domestic rabbits.

At this point, I believe a few highlights of the history of poultry inspection should be reported.

Poultry inspection service is carried on under authority granted to the U.S. Department of Agriculture in the Agricultural Marketing Act. The first poultry inspection service was supplied in 1927 in one of the large soup plants located in the East. Prior to that time, the Canadian government had put into effect a requirement that canned poultry products shipped into Canada must be accompanied by a federal export certificate stating that the product had been inspected and found to be wholesome. There was no official agency at that time in the U.S. Department of Agriculture with the authority to take over this responsibility. To enable processors in this country to meet Canadian requirements, the Bureau of Agricultural Economics was given the task of setting up the new service for the inspection of poultry. The Bureau of Agricultural Economics had been providing, in New York City and vicinity, live poultry inspection, which was being carried on under a cooperative agreement between that agency and the New York Live Poultry Commission Merchants' Association.

Poultry inspection service was supplied to only one plant for a few months in 1927, and only a few hundred thousand pounds of poultry were inspected that year. It should be pointed out that this poultry was inspected for further processing in a cannery, and none were eviscerated for sale as ready-to-cook poultry for home use.

In the late twenties, much of the poultry sold to consumers moved to the large market areas in live form where it was distributed, in live form, to hundreds of small dealers who then slaughtered and dressed it under what we would now consider extremely unsanitary conditions. Poultry was apparently considered too insignificant to merit sanitary processing, let alone inspection. A considerable portion of poultry moving into trade channels at that time was in the form of dressed poultry. This, for the most part, was processed in Middle West poultry dressing plants, and was then frozen for shipment to the large distribution areas for later sale to commercial users and consumers. Since this poultry was processed without supervision of sanitation and without benefit of inspection, the canner or consumer had no protection whatsoever from diseased or otherwise unfit poultry.

About 1928, New York City passed an ordinance requiring inspection of canned poultry products that were sold in that city. This stimulated other firms to request the inspection service and, by the end of 1928, six plants were operating under the program. An office was established in New York City with Dr. L. D. Ives in charge. In the meantime, a few canners in the Middle West applied for and were granted inspection service. A Chicago office was es-

Dr. Willie is chief, Inspection Branch, Poultry Division, Agricultural Marketing Service, U.S. Department of Agriculture, Washington, D.C.

Presented before the Combined Sections on Poultry and Public Health, Ninety-Third Annual Meeting, American Veterinary Medical Association, San Antonio, Texas, Oct. 15-18, 1956. One of five papers presented in the Symposium on Poultry Inspection.

tablished in July, 1929. It was not long until some of the larger packers began experimenting with the packaging of quick frozen ready-to-cook fowl, roasters, broilers, and turkeys. This poultry was packed in a similar manner to some of the frozen ready-to-cook whole poultry seen in the stores today, except that cellophane or parchment paper was used instead of the plastic films now almost exclusively employed. Initial merchandising attempts, however, were not too successful. The day of freezer cabinets had not yet arrived, and only a few stores were equipped to sell this type of poultry. Housewives were slow to accept this radical change from dressed to ready-to-cook form of poultry. For this reason, a large percentage of the inspection service rendered was supplied to canning plants. By 1932, production of inspected poultry totalled 15.5 million pounds. The service continued to expand and, by 1943, four area offices, located in Philadelphia, Chicago, Omaha, and San Francisco, were in operation. In the meantime, merchandising methods were improving, prepackaged frozen foods were on their way and, by 1945, the amount of poultry inspected and sold as ready-to-cook poultry exceeded that inspected for use in canned poultry products. By 1947, we were inspecting poultry in the annual amount of 226 million pounds. By 1953, this amount increased to a little over a billion pounds. These figures are based on the weights of dressed poultry. In 1955, we changed our reporting procedures and now use the finished weight or ready-to-cook weight. The continued expansion of the federal poultry inspection program is illustrated by the fact that, in October, 1951, we had 189 plants under the program and today, October, 1956, we have a total of 312 plants.

Central administration and direction of the federal poultry inspection program is conducted in the Washington office of the Inspection Branch. The program is directed by the chief of the Inspection Branch, who is responsible to the director of the Poultry Division. He, in turn, is responsible to the Administrator of the Agricultural Marketing Service. Under the chief of the Inspection Branch are two assistant chiefs: one is responsible for blueprints, plant facility approval, label approval, and the development of technical instructions for field use; the other is responsible for the development of procedures and criteria relating to the inspection of poultry and domestic rabbits, and exercises supervision of the pathology laboratory staff. In addition, we have established, in the Washington office, four other technical positions: a veterinary poultry pathologist and a technician manning our laboratory; a veterinarian assigned to our blueprint and plant facility section; and a label approval technician. Field supervision is handled through the area supervisors in charge of each of the four area offices: Philadelphia, Chicago, Des Moines, and San Francisco. It is the responsibility of these offices to supervise operations within the official plants located in their geographical areas. They are also responsible for all surveys of new plants applying for the service, and for checking and recommending approval of blueprints and plant facilities. In addition, each office is responsible for the recruitment of personnel and the handling of all personnel and fiscal matters in their areas.

The technical supervision at national, area, and field levels is provided by graduates of accredited veterinary colleges, and all employees of the Inspection Branch are Federal Civil Service employees.

TABLE I—Total Veterinarians and Lay Inspectors by Grade in Inspection Branch, Poultry Division, Agricultural Marketing Service, U. S. Department of Agriculture

| Area supervisors | Veterinarians | | | | | | Lay Inspectors | | | Total by area |
|---|---|---|---|---|---|---|---|---|---|---|
| | GS-14 | GS-13 | GS-12 | GS-11 | GS-9 | GS-7 | GS-5 | GS-6 | GS-7 | |
| J. R. Harney Philadelphia | — | 1 | — | 2 | 62 | 5 | 75 | 4 | 8 | 157 |
| W. S. Buchanan Chicago | — | 1 | 1 | 1 | 65 | 1 | 43 | 4 | 8 | 124 |
| R. B. Mericle Des Moines | — | 1 | 3 | 4 | 107 | 3 | 41 | 4 | 5 | 168 |
| H. E. Gaskill San Francisco | — | 1 | 1 | 0 | 52 | 0 | 4 | 3 | 0 | 61 |
| Washington Office Staff | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Total by grades | 1 | 6 | 6 | 7 | 286 | 9 | 163 | 15 | 21 | — |
| Totals | | | | | Veterinarians, 315 | | | Lay inspectors, 199 | | 514 |

Total number of plants under inspection service as of this date, 313.

Each area supervisor divides his area into circuits consisting of 20 to 25 plants. The circuit supervisor is responsible for the conduct of the inspection service within his circuit. Usually, the circuit supervisor is headquartered in the center of his circuit in order to keep mileage and travel time down to a minimum. For example, we have a circuit supervisor stationed at Waco, Texas, who presently supervises all the plants in Texas, plus three in Oklahoma, and one in New Mexico.

At the present time, we have 318 veterinarians and 198 lay inspectors engaged in poultry inspection work. As the poultry inspection service is being constantly called upon to provide additional service, this field is one that offers excellent opportunities to graduates of veterinary medicine. We anticipate our needs for additional inspectors to continue for some time at a high rate and, with this increase in veterinary and other inspection personnel, the opportunities for advancement to higher grade levels should also increase.

We have recently established a new position known as veterinary station supervisor, the grade rating of which is one step between the veterinary inspector-in-charge of a plant and the veterinary circuit supervisor. Because of the shortage of available veterinarians, we were compelled to use other means of providing inspection service to plants. Previously, we stationed a veterinary inspector-in-charge in each plant and, for several years, have used lay inspectors to perform routine postmortem inspection under the direct supervision of the veterinarian where more than one postmortem inspector was needed in the plant. This new position may be in one large plant or in a grouping of two or more plants. When a group of plants are included in the station, the plants must be in close proximity so that the veterinary station supervisor may give adequate supervision to the lay inspectors assigned to postmortem inspection lines within the station. A minimum of four postmortem lay inspectors in the station are necessary to support the new position. In either case, the plants are staffed with trained lay inspection personnel who do the routine job of making the bird-by-bird postmortem examination. These lay inspectors are permitted to condemn obviously diseased or unfit birds, and to pass those that are free from disease and otherwise normal. All other diseased, abnormal, or questionable birds are retained for disposition by the veterinary supervisor.

At present, we are limited in the number of stations that we can establish but, as more new plants are approved, it is expected that this arrangement will be extended where the distances involved will permit. At present, it has done much to relieve the shortage of veterinarians. In turn, it has given a psychological boost to our veterinarians, since they now have additional opportunities for advancement to a more professional and dignified position. I feel, at this point, that I should express to you my concern that we must impress upon our veterinary students and veterinary colleges the seriousness of the shortage of veterinarians needed for inspection work and that the veterinary profession may lose its opportunities in the field of inspection by default. We, in the Inspection Branch, have been constantly on the alert for veterinarians. We are anxious to visit every veterinary college at least once a year and, where possible and feasible, will arrange a tour of one or more poultry-processing plants with the senior class.

The regulations governing the inspection of poultry, domestic rabbits, and edible products thereof and the instructions issued in connection with the program are quite extensive. From time to time, over the years, they have been rewritten to meet with changing conditions and new knowledge. The sanitation and facility requirements are in many respects similar to those of other federal inspection agencies. We maintain a close working relationship with all governmental agencies in order that our program may be as effective as possible.

The Inspection Branch, Poultry Division, is charged with the responsibilty of providing voluntary poultry and domestic rabbit inspection service to plants applying for inspection service and which are able to meet with our sanitary, plant facility, and operational requirements. It should be emphasized that our inspection service operates, primarily, as a public health measure. Consumers of poultry and poultry food products are entitled to clean, wholesome poultry and poultry products, which are processed under strict sanitary conditions. Those of us who have been privileged to be a part of this important phase of inspection work are proud of the progress that has been made in improving poultry plant sanitation over the past 29 years.

# Mindell Animal Hospital

J. MINDELL, D.V.M.

*Albany, New York*

As a small animal practice grows, so must the physical plant of the hospital. The remodeling program carried out by Dr. Jack Mindell, Albany, N. Y., exemplifies both orderly expansion and good use of new materials.

The original building, completed in 1941 (fig. 1), had six rooms on the main floor, with a capacity of 40 animals, plus a three-room apartment on the second floor. The addition recently completed provides for 11 rooms on the main floor and accommodations for hospitalizing 72 animals (fig. 2, 4). Besides extra ward space, this provides a new reception room, surgery, x-ray therapy room, examination[1] and laboratory room, and office.

The reception room (fig. 3), 14 by 20 ft., provides 40 ft. of seating space which will accommodate 15 to 20 clients. The walls are of marlite which is a predecorated, baked plastic surface laminated on hardboard.


Fig. 1—The original building of the Mindell Animal Hospital in Albany, N. Y.

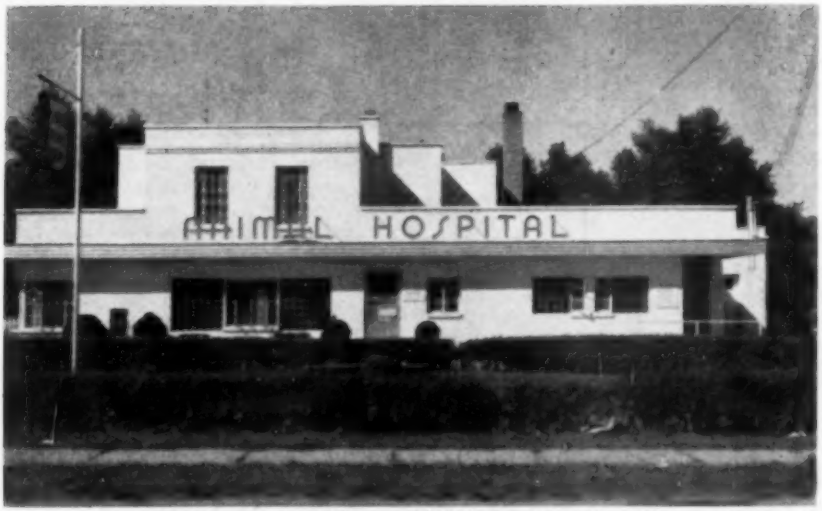
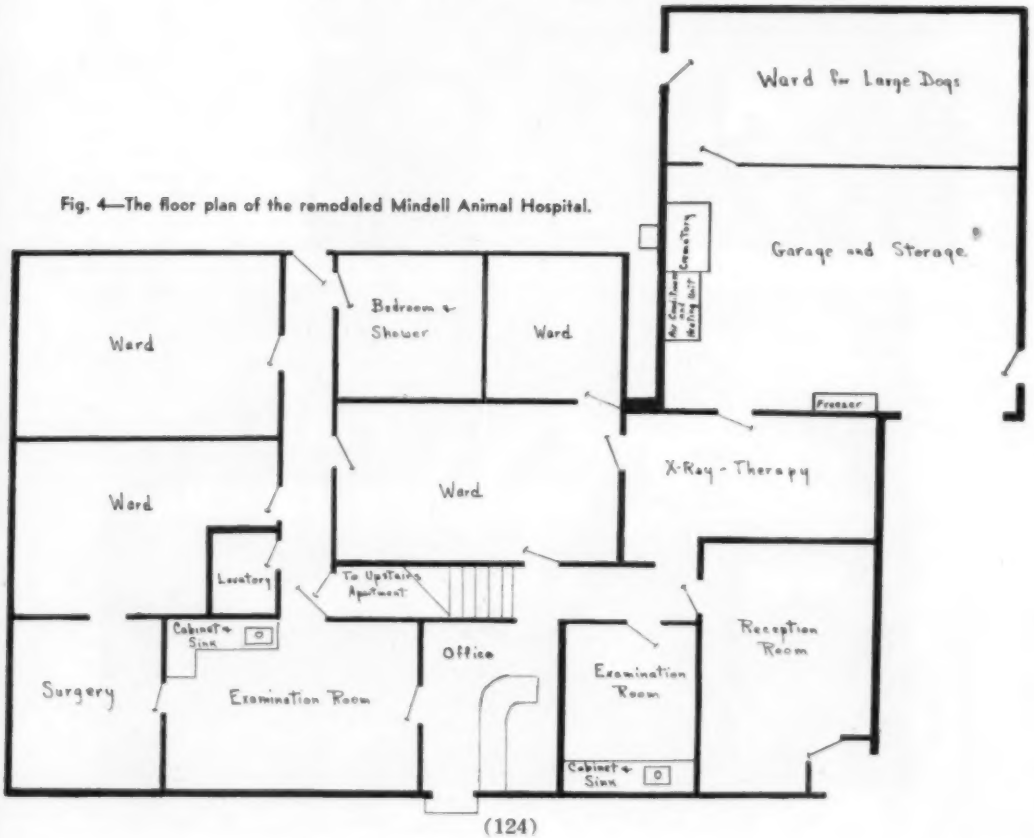



Fig. 2—Front view of the remodeled Mindell Animal Hospital.

Fig. 3—The new reception room of the Mindell Animal Hospital showing the bench-type seating arrangement, marlite walls, and terrazzo floors.

Fig. 4—The floor plan of the remodeled Mindell Animal Hospital.



Seating is of bench-type, and the upholstery, covering foam rubber cushions, is of sturdy, pliable, "naugahyde" plastic material. The floors are surfaced with multicolored terrazzo. The ceilings are finished with 12- by 12-inch acoustic tiles.

The examination room doors are of aluminum frame with panel length, fluted glass. The windows are of glass blocks with a small thermopane unit which can be opened.

The hospital is ventilated, heated, or cooled by conditioned forced air, with intake ducts at the ceilings and exhaust ducts near the base of the walls. The rooms are equipped with an intercommunication system which is controlled by the receptionist.

The efficiency, durability, and comfort provided in this hospital adds to the convenience of service that can be rendered.

## Fowlpox Vaccine Affects Parthenogenesis in Eggs

The eggs of 35 dark Cornish hens were examined, in 1956, at the Agricultural Research Center, Beltsville, Md., before and after the birds were vaccinated with fowlpox virus. More than nine times as many eggs from these birds showed parthenogenesis after vaccination, the highest incidence occurring in eggs laid 30 to 60 days after vaccination. Results were similar but less marked after vaccination with chicken pox virus or pigeon pox virus.

A total of 3,410 eggs laid by virgin turkeys in three months were also studied. Some parthenogenetic development occurred in 24.4 per cent of the eggs of nonvaccinated birds compared with 31.8 per cent from birds vaccinated for fowlpox. Well-formed embryos developed in 2.6 per cent of the eggs from the unvaccinated group, in 4.3 per cent of eggs of the vaccinated turkeys. At least two conditions would seem to be necessary before parthenogenesis occurs: a susceptible strain of birds and an activating agent such as fowlpox virus in the blood stream.—*Science, Nov., 1956.*

The farmer expects his veterinarian to be abreast of all the latest developments in the field of animal nutrition.

• • •

The cow with a low bite-per-minute performance, while grazing, is apt to be a low producer. Top-producing cows will often go as high as 60 bites per minute.—*Fort Dodge Biochem. Rev., Winter, 1956.*

## Systemic Insecticides for Livestock

An organic phosphate chemical known as Dow ET-57, the chemical formula of which is O,O-dimethyl O-2,4,5-trichlorophenyl phosphorothioate, when given orally in a single dose of 100 mg./kg. of animal weight (1.6 oz./1,000 lb.), had no visible toxic effect, yet it killed 92 to 100 per cent of all warbles in cattle within a few days. Heavier doses (150 to 200 mg./kg.) produced signs of intoxication but the animals recovered rapidly. A single dose eliminated cattle lice and killed biting flies for two or three days but was not especially effective against internal parasites. The chemical was found in the animals' fat—50 p.p.m. three days after, and 7 p.p.m. 14 days after treatment. Since it was found in the milk for several days, this drug should not be used in dairy cows.

The chlorinated hydrocarbons, dieldrin, aldrin, and lindane, were first shown to have systemic insecticide action but were discarded because they required repeated treatments and left excessive residues. Phenothiazine does not have a systemic effect. The Dow chemical must be tested at least another year before it is made available commercially.—*Agric.Res., Dec., 1956.*

*Toxoplasma Antibodies in Urban and Rural People.*—When serums from comparable groups in Tennessee (667 urban, 445 rural, all 11 to 19 years old) were tested for antitoxoplasmic antibodies, there was no sex or group difference, except that the rural groups had an unexplained tendency to produce titers of 1:256 or higher. The factors responsible for transmission of human toxoplasmosis seem to be common in both environments.—*Pub. Health Rep., Nov., 1956.*

The average incidence of mastitis in western Scotland is about 37 per cent of all cows. In 40 per cent, no organisms can be demonstrated in the milk or udder tissue. When organisms are present, about 75 per cent are staphylococcic and the others are chiefly streptococcic.—*Vet. Bull., Nov., 1956.*

Cows milked at unequal intervals (8 a.m. and 4 p.m.), in New Zealand, produced as much milk as those milked at 12-hour intervals.—*Science, Aug. 10, 1956.*

Surgery and Obstetrics
and Problems of Breeding

# Amputation of Foreleg in Small Animals

W. O. BRINKER, D.V.M., M.S., and T. W. JENKINS, Ph.D.

*East Lansing, Michigan*

SURGICAL removal of the foreleg can be a gratifying operation when a definite sequence in procedure is followed. An excellent procedure for amputation at the shoulder joint has been described.[1,2] Some helpful modifications are here presented.

The main indications for removal of the foreleg are (1) local paralysis, (2) neoplastic involvement, and (3) extensive injury or infection, or both.

Foreleg paralysis is usually the result of avulsion of the nerves as they leave the spinal cord or in the region of the brachial plexus. It is almost invariably permanent. Since the animal is unable to extend the joints, the foot drags and soon becomes abraded and necrotic. Amputation is often the only sound solution.

Neoplastic involvement of bone, such as osteogenic sarcomas, frequently develops in the distal portion of the radius and ulna and in the proximal part of the humerus. Since these sarcomas are prone to metastasize to the lungs, radiographs of the chest should be studied before amputating. However, lung lesions may not show, yet will frequently develop several months to years later.

Extensive crushing or cutting accidents or freezing may cause irreparable injuries. Also, extensive osteomyelitis or infection may warrant amputation. However, amputation should be considered only as a last resort since good surgery and aftercare may salvage limbs when the prognosis seems hopeless.

Amputation at the shoulder joint is preferred since a stump below this level serves no useful function and often becomes traumatized. Small animals seem to adapt themselves quickly and well to three legs.

## MATERIALS AND METHODS

The importance of asepsis, control of hemorrhage, and gentle handling of the tissues can not be overemphasized. The drapes and instruments contained in the pack for routine surgical operations will suffice in most cases; however, additional hemostats may be needed.

Pentobarbital sodium is usually the preferred anesthetic but the short-acting barbiturate or inhalation anesthetic may be indicated for animals that are poor or questionable surgical risks.

## PROCEDURE

The limb is clipped from well above the shoulder to several inches below the elbow joint. The skin is thoroughly cleaned and prepared. A sterile towel or bandage is wrapped around the limb below the elbow to permit sterile manipulation of the limb during the operation; sterile towels and drapes are used to cover the animal, leaving the area between the shoulder and elbow exposed.

In the seven illustrations included to depict operational stages on the left limb of a dog (fig. 1-7), anatomical structures are labeled for orientation.

The steps of the surgical procedure are as follows:

1) A curved incision, convex distally, is made in the skin on the lateral side of the limb, from the point of the shoulder to the caudal angle of the axilla (fig. 1).

2) A straight incision is made on the medial surface of the limb connecting the extremities of the first incision (fig. 3).

3) The skin is reflected proximally a short distance, and distally to the elbow (fig. 1-3).

4) The cephalic vein is isolated, ligated in three places, and a portion excised (fig. 2).

5) The lateral edge of the brachiocephalicus muscle is freed by blunt dissection as shown (fig. 1).

6) The deltoid muscle is severed at its insertion on the deltoid tuberosity and the incision is continued distally so that the lateral head of the triceps brachii muscle can be reflected with the deltoid muscle as a single unit (fig. 2). The dissection must not be carried too far as unnecessary hemorrhage will result.

---

Dr. Brinker is professor of surgery and medicine, and Dr. Jenkins is assistant professor of anatomy, College of Veterinary Medicine, Michigan State University, East Lansing.

Michigan Agricultural Experiment Station, journal article 1972.

The authors thank Mary Ellen Cross for preparing the original drawings.

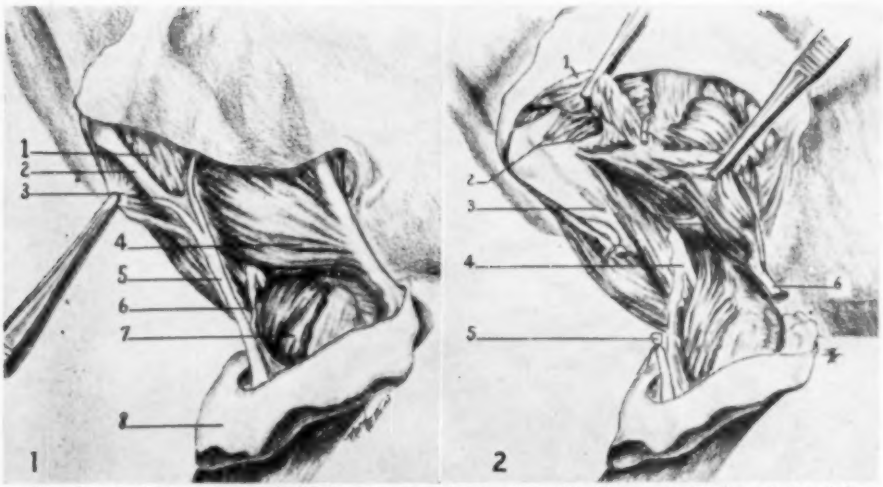



Fig. 1—Lateral view of the left foreleg of a dog showing line of incision and reflection of skin; (1) deltoideus muscle, (2) humerus, (3) brachiocephalicus muscle, (4) triceps brachii muscle, (5) cephalic vein, (6) radial nerve (superficial branch), (7) antebrachial muscles, and (8) skin (reflected).

Fig. 2—Lateral dissection of the left foreleg of the dog showing the ligated and severed cephalic vein and reflection of deltoideus muscle and lateral head of triceps brachii muscle; (1) deltoideus muscle, (2) infraspinatus and teres minor muscles, (3) deltoid tuberosity, (4) radial nerve, (5) cephalic vein, and (6) cut tendon of triceps brachii muscle.

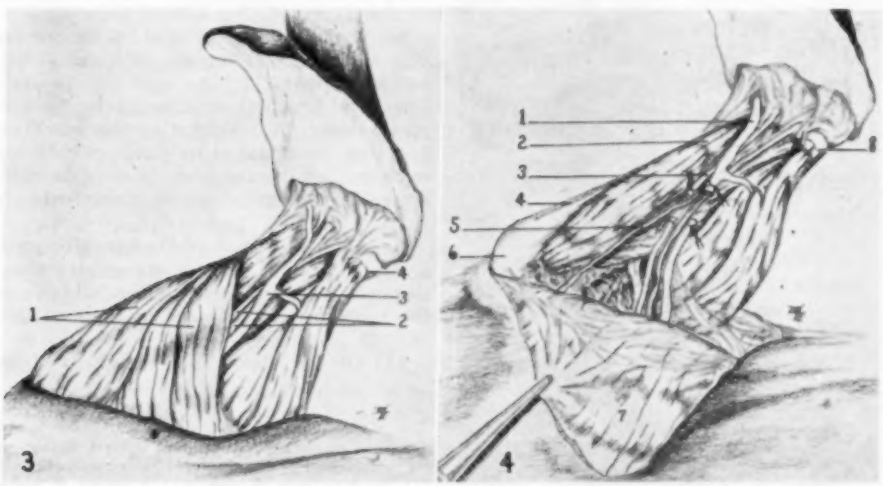



Fig. 3—Superficial medial view of the left foreleg of the dog showing vessels and nerves cleaned of fascia; (1) brachiocephalicus and pectoral muscles, (2) nerves of brachial plexus, (3) brachial vein, and (4) cut tendon of triceps brachii muscle.

Fig. 4—Medial view of the left foreleg of the dog showing reflection of brachiocephalicus and pectoral muscles and ligation of brachial vessels; (1) brachial vein, (2) biceps brachii muscle, (3) brachial artery, (4) crest of greater tubercle of humerus, (5) musculocutaneous nerve, (6) humerus, (7) brachiocephalicus and pectoral muscles (reflected), and (8) cut tendon of triceps brachii muscle.

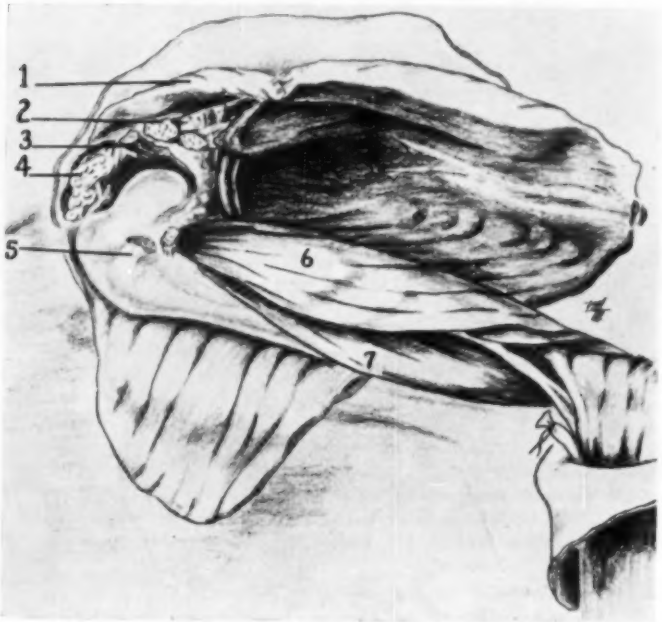



Fig. 5—Partial disarticulation, lateral aspect, of the left foreleg of the dog: (1) deltoideus muscle, (2) infraspinatus muscle, (3) lateral labiohumeral ligament, (4) supraspinatus muscle, (5) insertion of infraspinatus muscle, (6) triceps brachii (accessory head), and (7) brachialis muscle.


6


7

7) The tendon of the triceps brachii muscle is transected close to its insertion on the olecranon (fig. 2-4).

8) The fascia is removed on the medial side of the limb to expose the brachial vessels and nerves (fig. 3).

9) The brachial vein is ligated in two places, near the midpoint of the brachium and, also, proximal to its junction with the collateral ulnar vein (fig. 4). The brachial artery is similarly ligated, then both are cut.

10) The insertions of the brachiocephalicus and pectoral muscles are severed along the entire crest of the greater tubercle of the humerus and reflected as a single unit (fig. 4).

11) On the lateral side, the heads of the

Fig. 6—Complete disarticulation, lateral aspect, of the left foreleg of the dog: (1) infraspinatus muscle, (2) articular fossa of scapula, (3) tendon of biceps brachii muscle, (4) subscapularis muscle, (5) latissimus dorsi muscle, (6) nerves of brachial plexus and brachial vessels, and (7) brachiocephalicus and pectoral muscles (see fig. 4).

Fig. 7—Muscle groups in the left foreleg of the dog sutured prior to final skin closure: (1) triceps brachii (lateral and long heads) and deltoideus muscles, and (2) brachiocephalicus and pectoral muscles.

triceps brachii muscles are separated so that the lateral and long heads remain and the medial and accessory heads are removed with the limb.

12) The shoulder joint is disarticulated by beginning anteriorly, proceeding later-

Fig. 8—Postoperative picture of the dog illustrates the inconspicuousness of the amputated foreleg.

ally (fig. 5), and completing the separation medially (fig. 6). Scraping of the articular surface or removal of the remaining joint capsule is unnecessary.

13) The leg with its attached muscles (biceps brachii, brachialis, medial and accessory heads of the triceps brachii) is removed (fig. 5). Remaining with the dog are the deltoid and triceps brachii muscles (lateral and long heads) as one unit, and the brachiocephalicus and pectoral muscles as a second muscle mass (fig. 5-6). All bleeding vessels are ligated.

14) The brachiocephalicus and pectoral muscles are folded over the triceps and deltoideus muscles, and the two muscle masses are sutured together as shown (fig. 7). The stitches include only the fascia covering the outer surfaces of the two muscle masses.

15) The operation is completed by suturing the skin.

The skin sutures are usually removed in about seven or eight days.

**References**

[1]Frick, Edwin J.: Amputation of the Forelimb of the Dog. North Am. Vet., *24*, (1943): 741-742.
[2]Frick, Edwin J.: Amputation of the Legs. In "Canine Surgery," J. V. Lacroix and H. P. Hoskins (ed). 3rd ed. American Veterinary Publications, Inc., Evanston, Ill. (1952): 532-535.

---

*Fluorine Poisoning and Fractures.*—A 2-year-old heifer was found to have a fracture of the lateral third phalanx of a front foot; that portion of the digit was amputated. Five days later, she was again lame and a radiograph showed a similar fracture in the opposite front foot, so it was likewise amputated. Fluorine poisoning was suspected and typical lesions were found in the mouth. Investigation showed that the heifer had been purchased from a fluorine-infected area.—*Vet. Rec., Nov. 10, 1956.*

---

*Twinning—Two Ova in One Follicle.*—Twins might be considered identical because the ovaries contain only one corpus luteum. However, a photomicrograph in the *Veterinary Record* (Oct. 20, 1956, p. 738) shows two ova in one follicle in a cow's ovary. This is rare in cattle but is found in other species, including sheep.—*Vet. Rec., Nov. 3, 1956.*

---

*Stallion Fertility Index.*—The sulfhydryl content of the seminal fluid of the stallion was found, at the Southwest Foundation of Research and Education, San Antonio, Texas, to be correlated with its fertilizing efficiency. The more sulfhydryl present, the less the ability of the sperm to move. With a sulfhydryl value of 0 to 3, the result was 56.6 per cent pregnancies; with values of 4 to 6, 32.1 per cent; and over 6, 4.3 per cent of inseminations were successful.

---

*Gestation Periods of Inbred Jerseys.*—A study of 1,353 gestation periods of 427 inbred Jersey cows, at the University of California, showed an average of 282.7 days. Male calves were carried two days longer than females. First calves were carried 1.3 days less than second calves, and the latter 1.2 days less than third calves, with no difference for later calves. The gestation period was not affected by the season or the degree of inbreeding.—*J. Dai. Sci., Nov., 1956.*

---

*Gestation Period of the Egyptian Buffalo.*—Records on 393 gestation periods of 130 buffalo cows, over several years, show an average of 316.53 days for male calves and 315.71 days for female calves (about 1 month longer than in cattle). The average period was almost two days longer for calves born in the spring than during the summer. Fifteen heat periods were observed in these animals during pregnancy. —*Brit. Vet. J., Oct., 1956.*

# Obstructive Jaundice Ascribed to *Metorchis Conjunctus* in a Cat with a Bifid Gallbladder

H. C. GRICE, D.V.M.; J. A. HUTCHISON, D.V.M.; R. R. SAY, D.V.M.

*Ottawa, Ontario*

ACCESSORY gallbladders in the cat have been reported by various investigators as occurring in 1 in 8,[1] 1 in 200,[2] 2 in 200,[3] and 1 in 900[4] animals.

The embryogenesis of the condition has been reasonably well established. Aberrant hepatic vesicles have been classified[1] in the following four genetic groups: cleft gallbladders, arising by initial subdivision of the primary cystic diverticulum; diverticular bladders, arising as buds from the neck of the embryonic bladders; ductular bladders, derived from the cystic, hepatic, or common bile ducts; and trabecular bladders, outgrowths of the liver trabeculae. It was suggested[2,3] that the vesicae felleae divisae probably arose embryonically as a subdivision of the primary cystic diverticulum or by budding off from the main bladder.

No reports have been uncovered in the literature concerning any anomalies in the physiological function of the divided bladders, the condition hitherto apparently being revealed only at necropsy.

In the case here reported, attention was called to the condition because of jaundice which subsequently was found to be caused by a parasitic and inflammatory obstruction of the main ducts.

## CLINICAL ASPECTS

A female cat, 1 year old, showed signs of inappetence of short duration, and marked icterus of unknown duration. A firm, rounded mass about 2.5 cm. in diameter, palpated in the anteroventral portion of the abdomen (epigastric zone), was the only other relevant clinical feature. A diagnosis of obstructive jaundice was made. However, an exploratory laparotomy revealed a double gallbladder. Both sacs of the gallbladder were distended and tense, and the tip of one, protruding somewhat below the periphery of the liver, was the mass that had been palpated externally. The ductus choledochus was thickened and cordlike, and bile could not be forced through it. There was considerable resistance to the passage of a standard steel, male cat catheter which was introduced into an incision in the duct. No stones were palpated. Since it was unlikely that the condition could be effectively and permanently relieved, permission for euthanasia was granted.

## GROSS DESCRIPTION

As the twin bladders probably arose as an initial subdivision of the primary diverticulum, it is doubtful if either could properly be termed accessory.

The two bladders were of approximately equal size and had a common entry into the cystic duct about the level of the spiral valve of Heister. The left sac measured 43 mm. in length and 23 mm. in diameter at its widest point. The right lobe measured 40 by 23 mm. The joint cystic duct was 15 mm. long. The ductus choledochus was 30 mm. long with an external diameter of 3 mm. as compared with 2 mm. in the normal specimen.

Cut sections of the sacs and ducts revealed that the walls of the cystic duct and the ductus choledochus were considerably thickened; the walls of the gallbladder were only slightly thickened. All were filled with a macroscopically hemogeneous, green, jelly-like mass.

## HISTOPATHOLOGY

Serial sections of the gallbladder, the cystic duct, and ductus choledochus were cut at 4 $\mu$ and stained with hematoxylin and eosin.

*Gallbladders.*—The walls of the two gallbladders (fig. 1, 2) were similar and not greatly thickened but there was considerable fibrous tissue replacement of the muscle, with only a few strands of muscle tissue remaining. There was some folding of the epithelium, suggesting that the distention was not excessive. The green, jelly-like mass in the lumen of the bladders appeared

Drs. H. C. Grice and R. R. Say are with the Animal Pathology Section, Food and Drug Laboratory, Department of National Health and Welfare, Ottawa, Ont.; Dr. J. A. Hutchison is a small animal practitioner in Ottawa, Ont.

The authors thank Dr. T. W. M. Cameron, Institute of Parasitology, Macdonald College, Quebec, for the identification of Metorchis conjunctus; Mr. Garfield P. Morris for the medical illustrations; and Miss Elaine Connell for technical assistance.

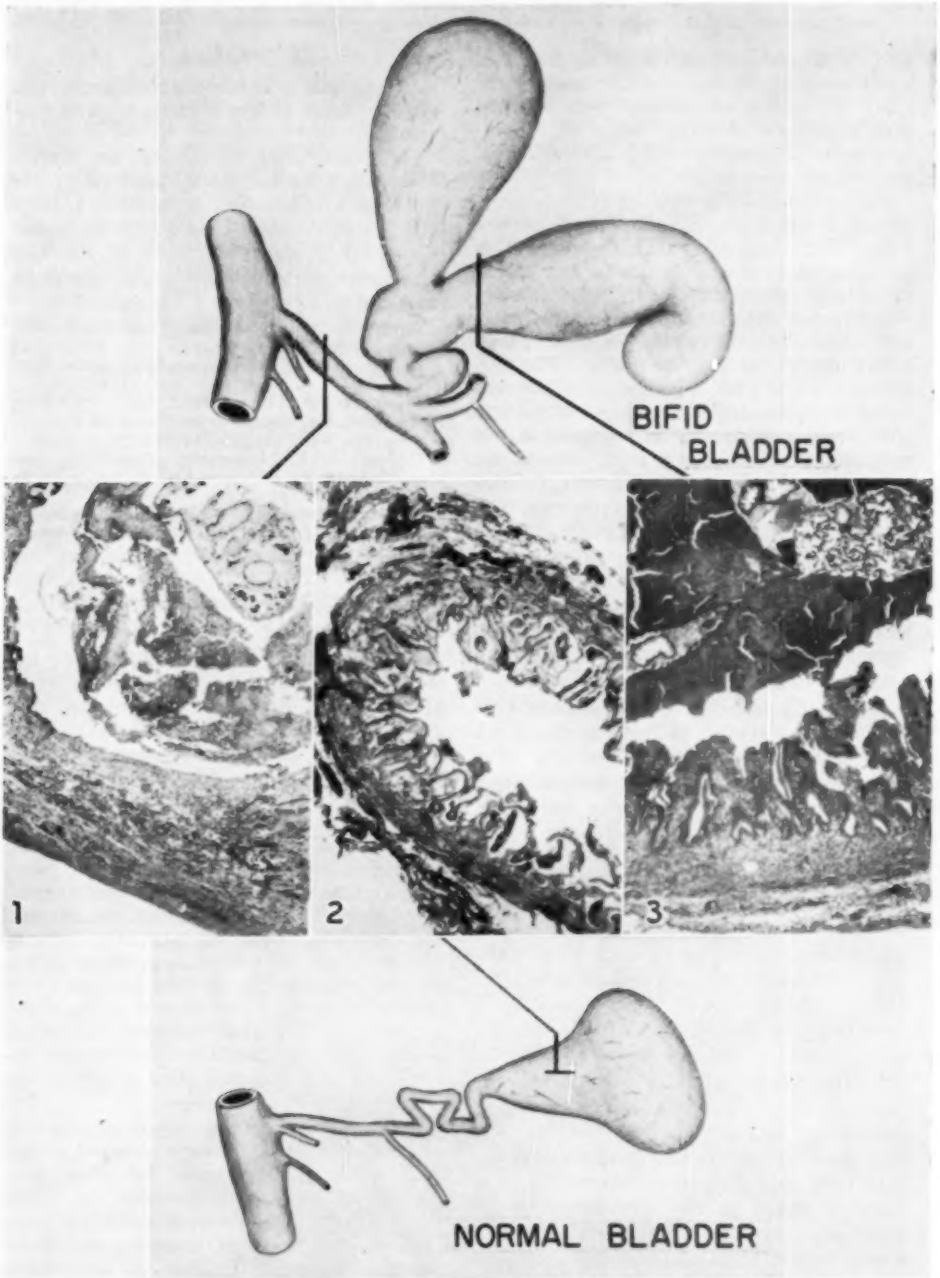



Fig. 1—Ductus choledochus of a cat with greatly thickened wall. Parasites embedded in inflammatory detritus in the lumen. H & E stain; x 32.

Fig. 2—Normal gall bladder of a cat. H & E stain; x 32.

Fig. 3—One lobe of bifid bladder of a cat showing thickened wall and cross section of two parasites embedded in gelatinous mass. H & E stain; x 32.

as a homogeneous pink-staining mass in which some leukocytes and trematode parasites, *Metorchis conjunctus*,[5] were embedded. This mass probably consisted of mucoid material, inspissated bile, the parasites, and cellular debris.

*Cystic Duct.*—The wall of the duct was greatly thickened, principally due to fibrous tissue with some edema. There were interlacing strands of fibrous tissue, and young fibroblasts and neocapillaries were numerous. Chronic inflammatory cells were present in varying numbers but there were only a few strands of muscle bundles. The epithelium was a high columnar type but, because of the distention, the typical folding that gives a glandular appearance to the epithelium of the normal duct was not noticed. Fat globules or cholesterol granules were not noticed but there were numerous small brown granular deposits in and on the epithelium.

The contents of the lumen appeared as a stringy pink-staining material in which were embedded large numbers of leukocytes, erythrocytes, cross sections of parasites, and parasitic eggs.

*Ductus Choledochus.*—The changes here (fig. 3) were similar to those in the cystic duct. The wall presented a picture of a subacute-to-chronic type of inflammation with blockage and distention of the lumen.

## DISCUSSION

Several cases of bifid gallbladder have been reported but none were complicated by parasitic obstruction of the ducts.

In this instance, the parasites, surrounding acidophilic mass, and embedded cellular debris had apparently blocked the ductus choledochus and were thus responsible for the obstructive jaundice. Since blockage of the large bile ducts rarely results from the presence of the smaller trematodes, it is interesting to speculate whether the bilobate condition of the gallbladder might not have been a predisposing factor. The twin bladders joined at the level of the spiral valve and may have interfered with its physiological function. In addition to this, the greater absorptive surface offered by twin gallbladders may have led to overconcentration of the bile. These two factors conceivably could have constituted a predisposition to blockage of the biliary ducts.

## SUMMARY

A cat with jaundice and anorexia was found to have a deeply cleft, bilobed gallbladder.

The joint cystic duct and the ductus choledochus were blocked, presumably the result of inflammatory processes initiated by a trematode parasite, *Metorchis conjunctus*, and possibly complicated by the bifid condition of the gallbladder.

### References

[1]Boyden, E. A.: The Accessory Gallbladder. Am. J. Anat., *38*, (1926): 177.

[2]Bartlett, I. M.: A Divided Intrahepatic Gallbladder in a Cat. Anat. Rec., *109*, (1951): 715.

[3]Mann, Phillip H., and Fratta, Italo: Two Cases of Accessory Gallbladder in the Cat, *Felis Domesticus*. Cornell Vet., *42*, (1952): 352-354.

[4]Gribble, L. R.: Laboratory Manual of Comparative Anatomy. Blakiston Co., Philadelphia, Pa. (1950): 231.

[5]Cameron, Thomas W. M.: The Morphology, Taxonomy and Life History of *Metorchis Conjunctus*. Canad. J. Res., *22*, (1944): 6-16.

## Hormonal Depression with Chlorpromazine

In man, chlorpromazine impairs the hypothalamus and, through it, the anterior pituitary lobe. Five rats were injected subcutaneously with chlorpromazine (10 mg./kg.) daily for three months, then the effects were studied. The development of the ovaries was partly suppressed and there was a tendency to permanent estrus, but no corpora lutea were formed. In the male, there was atrophy of the testes, the prostate, and the seminal vesicles. In both sexes, the development of the adrenal and thyroid glands were about 80 per cent normal but there was no difference in the pituitary glands. The animals' growth was definitely stunted, females about 30 and males about 37 per cent. Findings indicate that chlorpromazine depresses the function of the hypothalamus.—*Nature, Aug. 18, 1956.*

*Menstruation After Ovariectomy.*—A woman whose ovaries were removed at age 28, because of extensive infection, continued to menstruate monthly for eight years. Since it is the only source of complete ovarian hormone, some ovarian tissue must have been left. It is not uncommon for a piece of the wall of a cystic ovary to be missed when adhesions and inflammatory changes exist. Other sources of hormone usually produce an irregular type of cycle. —*J.Am.M.A., July 21, 1956.*

# Mucocele Sinusitis in a Thoroughbred Filly

ROBERT M. HENSLEY, D.V.M., and
E. W. THOMAS, D.V.M.

*Lexington, Kentucky*

A 2-year-old Thoroughbred filly was presented with a history of having developed, when a yearling, a noisy sonorous dyspnea which increased on exercise. The gross appearance of the head and nasal passages were normal. There was no nasal discharge and no history of respiratory infection. A diagnostic radiograph was made on June 2, 1954 (fig. 1).

Subsequently, a bulge developed over the left nasal region and, on July 16, a trephine operation revealed that the frontal and maxillary sinuses were filled with a thin, straw-colored, mucopurulent fluid which was sterile when cultured. Two million units of procaine penicillin and 2.5 Gm. of streptomycin were given daily for five days for prophylaxis.

The sinuses were examined by inserting an endoscope through the trephine opening. A portion of the dorsal turbinate bone was found to be absent, allowing this portion of the mucous membrane to flap loosely with each respiration. As much as 500 ml. of exudate was removed daily for two weeks as the sinuses continued to fill without abatement. A second radiograph, made on November 4 after aspirating the exudate (fig. 2), shows the contrasts observed in a film of a normal head as opposed to the generalized radiopacity seen in the first film.

By November 6, the trephine wound had healed to a point necessitating a reoperation, which was performed. On November 30, it was discovered that the gauze sponge protecting the trephine opening had become dislodged and an acute infectious sinusitis had developed. Cultures showed the organism to be a penicillin-sensitive Streptococcus. Therapy consisted of daily injections of 2 million units of procaine penicillin together with 2.5 Gm. of streptomycin intramuscularly with a similar amount injected directly into the sinus; in ten days the infection was eliminated. The trephine wound healed and two years later there had been no relapse.

## DISCUSSION

This condition has been described[1] as occurring in 2- and 3-year-old horses and less frequently in cattle. Nasal discharge was

Drs. Hensley and Thomas specialize in equine practice in Lexington, Ky.

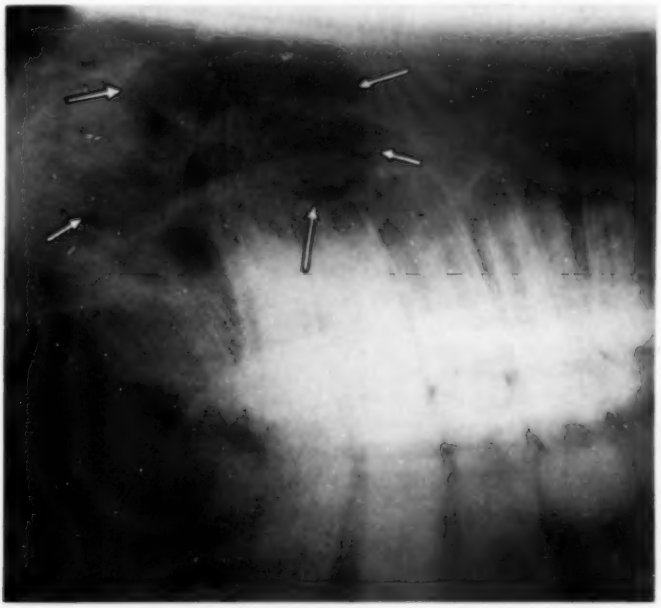


Fig. 1—Radiograph showing the sinus (arrows) before the operation. Notice the opacity.

Fig. 2—Radiograph taken after the sinus (arrows) had been trephined and emptied by aspiration.

said to be absent and the bulging not due to fluid pressure since the sinuses were only partially filled with straw-colored fluid. The cause was not determined and no treatment was suggested.

A similar situation is encountered with some frequency in man and is referred to as mucocele (pyocele if there is pus) of the sinuses.[2] It is defined as an accumulation and retention of mucus (or pus) within the sinus with blocking of the sinus ostium, thinning of the bony walls of the sinus and, possibly, with distension of one or more of these walls. The cause is unestablished but it is theorized as being either (1) an enlargement of a retention cyst of a mucous gland or glands, or cystic degeneration of a polyp; or (2) the result of closure of the opening into the nasal cavity from obstruction or inflammation.

In the case presented, the former theory can be eliminated on the basis of radiographic results. Unfortunately, endoscopy of the nasal passage was not performed during the active stage of the disease but, since no discharge was observed, it is safe to assume that the nasomaxillary opening must somehow have been occluded. Recent (1956) endoscopy of the filly's nasal passages showed the openings to be symmetrical and patent, obviating the possibility of any congenital defect.

Since the condition disappeared after recovery from the infection, it is interesting to speculate on the possible effect of the infection on its disappearance.

**References**

[1]Fowler, G. R.: Personal communication, 1953.
[2]Ballenger, W. L., and Ballenger, H. C.: Diseases of the Nose, Throat, and Ear. Lea and Febiger, Philadelphia, Pa. (1943): 224-225.

## Results from Debeaking Chicks

About 3,000 chicks, 1-day-old, were placed in four groups, three of which were debeaked either by removing one-third of both the maxilla and mandible, or one-half of both, or two-thirds of the maxilla only. One group served as controls. One-half of each group was fed mash, the other half was fed "crumbles" for four weeks, then pellets the remainder of the ten-week period.

Debeaking resulted in an improvement in feathering but not in a significant increase in body weight or feed efficiency. One-third of the beak must be removed to prevent its regrowth to normal length by 10 weeks of age; however, tipping reduces feather picking almost as much as more drastic debeaking.—*Poult. Sci., July, 1956.*

# What Is Your Diagnosis?

Because of the interest in veterinary radiology, a case history and accompanying radiographs depicting a diagnostic problem are usually published in each issue of the JOURNAL.

***Make your diagnosis from the picture below — then turn the page ▶***

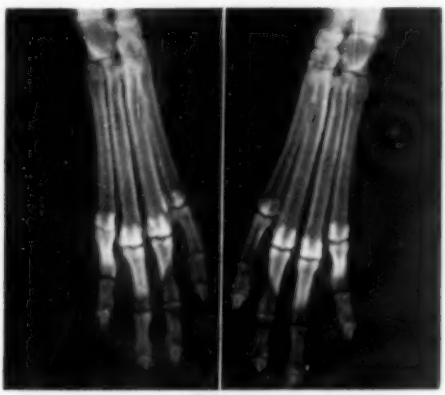


Figure 1

*History.*—A male Boxer, 14 months old, which was exceedingly energetic and difficult to train, suddenly developed a supporting leg lameness in the left front leg. The lameness was constantly present but increased with exercise. The source seemed to be in the foot but the dog showed no pain when the foot was palpated, nor was there any increased local heat or swelling. A dorsoventral radiograph of both forefeet was taken.

***(Diagnosis and findings are reported on the next page)***

## Here Is the Diagnosis

(*Continued from preceding page*)

*Diagnosis.*—Fractured tuberosities, medial and lateral, of the proximal extremity, first phalanx of the lateral digit of the left front foot.

*Comments.*—The lesions are doubtless due to trauma, causing separation of the periosteum and some osseous tissue with the attachment of the collateral ligaments. Because of interference with the blood supply of such fragments, healing may be retarded. Similar injuries are often reported in tennis players and toe dancers.

Fig. 2 — Enlargement of figure 1, radiograph showing the periosteum and bone fragments (arrow) splintered from the proximal tuberosities of the first phalanx.

Case submitted by Drs. Myron Bernstein and Donald R. Karr, Glencoe Animal Hospital, Glencoe, Ill.

# The Use of Prednisolone in Bovine Ketosis

R. P. LINK, D.V.M., Ph.D.; D. I. NEWTON, D.V.M.;
W. G. HUBER, D.V.M.

*Urbana, Illinois*

PRIMARY KETOSIS in cows appears to be a metabolic disorder which is not secondary to any other recognized disease. However, ketosis may occur in cows affected with other diseases to which it may be secondary. This disease is usually observed in high-producing cows within a relatively short period after freshening. It is seasonal in occurrence in some areas, the majority of cases appearing in the winter and spring. There appears to be general agreement among those who have studied this disease that prompt stimulation of glycogenesis or glucose therapy constitutes the most effective treatment.

Several glucocorticoids and adrenocorticotrophin (ACTH) have been used for treatment of bovine ketosis. Effectiveness of cortisone and ACTH for treatment of this disease was reported[2,4,8,10] with later observations[9] on the use of hydrocortisone. Reports[5,7] on the use of prednisone in ketosis indicate it is effective in lower dosage than hydrocortisone.

Delta-1-dehydro-9-alpha-fluorohydrocortisone was found about twice as potent and 9-alpha-chlorohydrocortisone about one half as potent as 9-alpha-fluorohydrocortisone for the treatment of cows with ketosis.[7]

The anti-inflammatory activity of prednisolone has been shown to be greater than that of hydrocortisone or prednisone.[1] It appeared desirable to conduct a study to determine the glucocorticoid activity of prednisolone (sterane®*) in treatment of bovine ketosis.

## EXPERIMENTAL STUDIES

Forty cows diagnosed as having ketosis were studied, 36 as having primary ketosis, 3 with ketosis secondary to other pathological conditions, and 1 with chronic ketosis. The latter animal had not previously been treated but had been producing only about one half her usual flow of milk since freshening 27 days previous to treatment; she would eat no concentrate and only a small amount of hay. One cow in the primary ketosis group had been repeatedly treated with glucose before prednisolone was used.

A positive diagnosis was based on evidence of hypoglycemia, ketonemia, and ketonuria accompanied by characteristic symptoms, such as rapid loss of weight, lack of appetite, constipation, rapid decrease in milk production, incoordination, depression, or nervousness.

The Ross test was used to detect ketonuria and only a strong positive reaction was interpreted as being evidence of ketosis. The Dumm and Shipley test on the blood serum was used as an aid in diagnosis in 17 cases.

Blood collected before treatment, and at 24 hours and 96 hours after treatment, was drawn into sterile tubes containing ammonium oxalate and sodium fluoride. Blood glucose determinations were made according to the Somogyi[11] method using the Nelson[6] color producing reagent. The blood ketone bodies were determined by the Greenberg and Lester[3] method.

The initial treatment with prednisolone consisted of a single intramuscular injection of 50 mg. or 100 mg. of the drug. The size and condition of the cow was used as the guide in determining the dosage. Additional therapy was given only in those cases in which recovery was slow following initial treatment.

## RESULTS

Of 32 cows given 100 mg. of prednisolone, 27 (84%) recovered without additional therapy (table 1). Of 8 cows given 50 mg. of prednisolone, 6 (75%) recovered without additional therapy (table 2). Of the 3 cows which had ketosis complicated by other diseases, 2 did not recover with a single treatment. The recovery rate for the uncomplicated cases was 87 per cent.

Three cows given an initial treatment of 100 mg. of prednisolone required a second

From the Department of Veterinary Physiology and Pharmacology, University of Illinois, Urbana.

Presented before the combined Sections on General Practice and Surgery and Obstetrics, Ninety-Third Annual Meeting, American Veterinary Medical Association, San Antonio, Texas, Oct. 15-18, 1956.

The prednisolone (sterane) used in this study was furnished by Dr. E. M. Sacchi, Charles Pfizer and Co., Terre Haute, Ind.

The assistance of the following veterinarians is acknowledged by the authors: R. W. Galvin, Beecher, Ill.; J. R. Baker and R. A. Latham, Erie, Ill.; and H. H. Babe, Hampshire, Ill.

*Trademark, Charles Pfizer and Co., Terre Haute, Ind.

TABLE 1—Response of Cows with Ketosis to Prednisolone Therapy Treatment with 100 mg. at Hour 0

| No. | Breed | Blood (mg./100 ml.) Glucose Hour 0 | Glucose 24 | Glucose 96 | Ketones 0 | Ketones 24 | Ketones 96 | Clinical response |
|---|---|---|---|---|---|---|---|---|
| 1 | Holstein-Friesian | 36.1 | 55.6 | 44.3 | 22.4 | 19.1 | 2.3 | Recovered |
| 2 | Guernsey | 37.7 | 43.2 | 45.4 | 27.2 | 26.8 | 3.4 | Recovered |
| 3 | Guernsey | 35.2 | 52.7 | 50.7 | 22.4 | 16.1 | 3.3 | Recovered |
| 4 | Guernsey | 41.7 | 50.0 | 70.4 | 21.4 | 6.3 | 0.0 | Recovered |
| 5 | Guernsey* | 38.1 | 66.2 | 79.2 | 24.3 | 11.2 | 0.0 | Recovered |
| 6 | Guernsey | 31.7 | 66.0 | 56.8 | 23.3 | 7.6 | 0.0 | Recovered |
| 7 | Guernsey | 34.0 | 66.4 | 54.6 | 21.7 | 12.3 | 0.0 | Recovered |
| 8 | Guernsey | 29.3 | 61.6 | 53.2 | 27.4 | 12.3 | 5.4 | Recovered |
| 9 | Holstein-Friesian | 28.3 | 58.7 | 50.0 | 38.5 | 21.3 | 3.9 | Recovered |
| 10 | Guernsey | 27.1 | 56.8 | 58.7 | 45.4 | 26.6 | 2.1 | Recovered |
| 11 | Holstein-Friesian | 31.8 | 65.2 | 57.8 | 29.2 | 11.7 | 2.5 | Recovered |
| 12 | Guernsey | 28.3 | 72.4 | 59.3 | 44.2 | 17.8 | 3.1 | Recovered |
| 13 | Guernsey | 26.7 | 66.2 | 61.6 | 47.4 | 22.3 | 3.7 | Recovered |
| 14 | Guernsey | 31.7 | 66.0 | 56.8 | 23.3 | 7.6 | 0.0 | Recovered |
| 15 | Holstein-Friesian | 28.4 | 62.3 | 57.7 | 38.7 | 18.3 | 3.7 | Recovered |
| 16 | Holstein-Friesian | 34.8 | 66.1 | 41.3 | 26.0 | 23.4 | 3.7 | Recovered |
| 17 | Holstein-Friesian | 37.7 | 57.8 | 60.6 | 18.1 | 3.4 | 0.0 | Recovered |
| 18 | Holstein-Friesian | 27.7 | 66.4 | 54.6 | 39.1 | 28.3 | 4.6 | Recovered |
| 19 | Holstein-Friesian | 35.8 | 66.1 | 47.7 | 52.2 | 38.5 | 5.6 | Recovered |
| 20 | Holstein-Friesian | 27.7 | 66.1 | 44.3 | 43.2 | 20.5 | 1.3 | Recovered |
| 21 | Holstein-Friesian | 32.6 | 56.8 | 58.3 | 31.9 | 12.3 | 1.0 | Recovered |
| 22 | Holstein-Friesian | 25.2 | 58.3 | 53.2 | 19.9 | 18.2 | 0.0 | Recovered |
| 23 | Holstein-Friesian | 29.8 | 55.8 | 46.3 | 36.4 | 6.8 | 0.0 | Recovered |
| 24 | Holstein-Friesian | 30.0 | 76.7 | 63.5 | 22.3 | 19.1 | 4.6 | Recovered |
| 25 | Guernsey | 23.2 | 58.7 | 44.7 | 34.3 | 18.1 | 3.9 | Recovered |
| 26 | Brown Swiss | 23.7 | 78.0 | 69.6 | 53.2 | 29.8 | 5.1 | Recovered |
| 27 | Holstein-Friesian | 25.4 | 56.8 | 44.3 | 33.4 | 21.3 | 5.3 | Recovered |

*Secondary ketosis-metritis.

treatment to effect recovery (table 3). One cow (40), initially injected with 50 mg. of prednisolone, required a second injection of 50 mg. to effect recovery. This cow was diagnosed as having chronic ketosis. She returned to her previous production level within one week following treatment. Cow 35, given two 100-mg. injections of prednisolone, recovered after several treatments with glucose. Cow 39, also given two 100-mg. injections of prednisolone, recovered after several treatments with glucose. Cow 38 was suffering also from traumatic gastritis and did not recover following two 50-mg. injections of prednisolone.

Cow 5 recovered following 100 mg. of prednisolone and the use of anti-infective agents for treatment of metritis. Cow 28 had been treated with 1,000 ml. of 40 per cent glucose three times at two-day intervals without recovery. Three days after the third glucose treatment, she was given 50 mg. of prednisolone. She recovered promptly and returned to full production by the fifth day. Cow 4 had been treated with 500 ml. of 40 per cent glucose twice without recovery. Two days after the second glucose treatment, she was given 100 mg. of prednisolone and made a rapid recovery. The relatively high initial blood glucose (table 1) may have been influenced by the glucose therapy.

Prednisolone completely eliminated the ketonemia at 96 hours post-treatment in 9 of 33 cows which recovered from a single treatment. The ketonemia in the remaining 24 cows at the 96-hour interval was relatively mild and the blood glucose was within the normal range in all cows. The 24-hour blood glucose values were not unusually high. The maximum glucocorticoid activity may occur before the 24-hour interval.

Cows which responded satisfactorily to prednisolone therapy returned to full pro-

TABLE 2—Response of Cows with Ketosis to Prednisolone Therapy Treatment with 50 mg. at Hour 0

| No. | Breed | Blood (mg./100 ml.) Glucose Hour 0 | Glucose 24 | Glucose 96 | Ketones 0 | Ketones 24 | Ketones 96 | Clinical response |
|---|---|---|---|---|---|---|---|---|
| 28 | Holstein-Friesian* | 38.1 | 50.6 | 44.0 | 21.4 | 7.9 | 0 | Recovered |
| 29 | Hostein-Friesian | 31.7 | 47.8 | 41.3 | 28.9 | 16.2 | 3.1 | Recovered |
| 30 | Guernsey | 26.4 | 59.2 | 52.4 | 27.9 | 19.8 | 3.7 | Recovered |
| 31 | Jersey | 28.3 | 61.2 | 58.7 | 22.4 | 11.2 | 3.0 | Recovered |
| 32 | Holstein-Friesian | 25.4 | 66.0 | 49.2 | 21.2 | 12.0 | 3.7 | Recovered |
| 33 | Jersey | 27.2 | 58.7 | 47.3 | 29.0 | 14.6 | 4.1 | Recovered |

*This cow had been treated with glucose.

TABLE 3—Response of Cows with Ketosis to Prednisolone Therapy

| No. | Breed | Hour | Blood (mg /100 ml.) Glucose 0 | Glucose 24 | Glucose 96 | Ketones 0 | Ketones 24 | Ketones 96 | Treatment mg. | Re-treatment (mg.) | Re-treatment (day) | Clinical response |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | Jersey* | | 27.9 | 69.3 | 57.8 | 43.4 | 19.1 | 4.3 | 100 | 100 | 3 | Recovered |
| 35 | Guernsey | | 34.2 | 50.0 | 50.0 | 38.4 | 29.8 | 15.6 | 100 | 100‡ | 2 | Slow recovery |
| 36 | Holstein-Friesian | | 27.2 | 50.0 | 36.6 | 29.6 | 12.6 | 14.7 | 100 | 100 | 4 | Good recovery |
| 37 | Holstein-Friesian | | 36.1 | 61.2 | 46.6 | 24.4 | 9.5 | 8.8 | 100 | 100 | 4 | Good recovery |
| 38 | Holstein-Friesian† | | 31.4 | 49.6 | 43.2 | 23.2 | 30.2 | 19.3 | 50 | 50 | 4 | Not satisfactory |
| 39 | Holstein-Friesian | | 36.1 | 45.8 | 38.1 | 40.1 | 32.4 | 27.0 | 100 | 100§ | 4 | Recovered |
| 40 | Holstein-Friesian** | | 28.3 | 56.3 | 44.2 | 26.6 | 13.4 | 7.3 | 50 | 50 | 2 | Recovered |

*Secondard ketosis-metritis. †Secondary ketosis-traumatic gastritis.
**Chronic ketosis. ‡Plus glucose—500 ml., 40 per cent. §Plus repeated glucose treatments.

duction in five to seven days. Those which exhibited symptoms of nervousness responded more slowly than those which were depressed. This drug also appeared to exert an appetite-stimulating effect, with most of the cows resuming a normal food intake soon after treatment. Studies were not made on the blood sodium and potassium but there was no clinical evidence of a marked reduction in the potassium level following prednisolone therapy.

## DISCUSSION

The finding that prednisolone was effective therapy for bovine ketosis in smaller dosages than hydrocortisone or prednisone was to be expected since the drug has been reported to have greater biological activity.[1] Of the 40 cows treated with prednisolone, 3 did not respond satisfactorily without further therapy. One of the cows had traumatic gastritis which may have influenced the unfavorable response. The remaining 2 cows appeared to have uncomplicated ketosis and responded slowly to repeated intravenous injections of glucose. One cow which had been repeatedly treated with glucose without favorable response quickly recovered following injection of 50 mg. of prednisolone. The reason for this variable response is not well understood. One observed difference in response of the ketotic cows to prednisolone therapy compared with glucose was the return to milk production. It has been reported[7] that hydrocortisone depresses milk production. The cows which responded favorably to prednisolone therapy returned to full production more slowly than cows which we have observed responding favorably to glucose therapy. This observation suggests that prednisolone also may have a slight depressing effect on milk production.

Two of the cows (34, 38) that did not recover from a single injection of prednisolone had complicating conditions which may have influenced the response. One (34) responded to a second treatment, whereas the other (38) did not and was removed from the herd. Inability to correct the complicating condition was without doubt an important reason why this cow did not respond satisfactorily to treatment.

The satisfactory response of a high percentage of cows treated with 100 mg. prednisolone indicates that this dosage is adequate. Less severely affected cows may require only 50 mg. of the drug. It is, therefore, effective in lower dosage than other presently available glucocorticoids recommended for treatment of ketosis.

## CONCLUSIONS

Prednisolone (sterane) has advantages over some types of treatment for ketosis because of ease of administration and rapid physiological effect.

The dosage employed ranged from 50 mg. to 100 mg. Blood glucose values increased rapidly after treatment, accompanied by a decrease in the ketone bodies.

Eighty-seven per cent of the cows with uncomplicated ketosis recovered with a single treatment.

### References

[1]Dulin, W. E.: Anti-Inflammatory Activity of Delta 1-9 Alpha-Fluorohydrocortisone Acetate. Proc. Soc. Expt. Biol. and Med., *90*, (1955): 115-117.

[2]Dye, J. A., Roberts, S. J., Blampied, N., and Fincher, M. G.: The Use of Cortisone in the Treatment of Ketosis in Dairy Cows. Cornell Vet., *43*, (1953): 128-160.

[3]Greenberg, L. A., and Lester, D.: A Micromethod for the Determination of Acetone and Ketone Bodies. J. Biol. Chem., *154*, (1944): 177-190.

[4]McAuliff, J. L., Phillips, W. V., and Steele, J. R.: Treatment of Ketosis in Dairy Cattle: A Clinical Report. Vet. Med., *49*, (1954): 69-74.

[5]Morris, R. G., and Hall, C. E.: A Preliminary Report on the Use of Meticorten in Bovine Ketosis. J.A.V.M.A., *128*, (1956): 132-134.

[6]Nelson, N.: A Photometric Adaptation of the Somogyi Method for the Determination of Glucose. J. Biol. Chem., *153*, (1944): 375-380.

[7]Shaw, J. C.: Ketosis in Dairy Cattle. J. Dai. Sci., *39*, (1956): 402-434.
[8]Shaw, J. C., Chung, A. C., Gessert, R. A., and Bajwa, A.: Additional Studies on the Etiology and Treatment of Bovine Ketosis Including an Evaluation of Metacortandracin, 9-Alpha-Fluorohydrocortisone Acetate and Calcium Lactate. Maryland Agric. Exper. Sta. Misc. Pub. No. 238, (1955): 15-20.
[9]Shaw, J. C., Hatziolos, B. C., and Leffel, E. C.: Studies on Ketosis in Dairy Cattle. XIV. An Approach to the Etiology of Ketosis in Dairy Cows. Proc. Book, AVMA (1950): 73-75.
[10]Shaw, J. C., Hatziolos, B. C., Leffel, E. C., Chung, A. C., Gill, W. M., and Gilbert, J.: Pituitary-Adrenal Cortical Syndrome in Ketosis of Dairy Cows. Maryland Agric. Exper. Sta. Misc. Pub. No. *139*, (1952): 1-19.
[11]Somogyi, M.: Determination of Glucose. J. Biol. Chem., *160*, (1945): 69-74.

## Response of Sheep Nematodes to Phenothiazine

A comparison was made of the action of phenothiazine on two strains of sheep nematodes that were selected on the basis of flock history as representative of minimum (strain A) and maximum (strain B) contact with this drug.

Treatment of experimentally infected lambs with small daily doses resulted in consistent and strikingly different responses between these strains. Thus, 0.5 Gm. of phenothiazine daily completely inhibited larval development and depressed egg counts by 65 per cent in lambs infected with strain A; in contrast, 1.0 Gm. and 2.0 Gm. daily were required for these same effects in lambs infected with strain B. Limited experience with therapeutic doses also indicated a lack of effectiveness against strain B nematodes which not only had a higher threshold to the drug than strain A but also appeared more tolerant than strains of sheep nematodes studied previously by other investigators. The present observations are in accord with the strain B flock history which indicated a lack of effectiveness of phenothiazine under field conditions.

These observations suggest that the prolonged use of phenothiazine in the flock has resulted in the development or selection of drug-resistant strains of nematodes possessing a significant level of tolerance to phenothiazine.—[*J. H. Drudge, S. E. Leland, and Z. N. Wyant: Strain Variation in the Response of Sheep Nematodes to the Action of Phenothiazine. I. Studies of Mixed Infections in Experimental Animals. Am. J. Vet. Res., 18, (Jan., 1957): 133-141.*]

Human cancer (Hela) cells from which the nuclei had been surgically removed survived as long as 40 hours. The amoeba and other larger cells had previously been kept alive after removal of the nuclei. Under a microscope, and using microscopic-sized instruments, dumbbell-shaped cells were cut in two while the nucleus was at one extremity.—*Sci. News Letter, Nov. 17, 1956.*

## Electromagnetic Metal Detector

Dr. H. Rieger of the Veterinary Surgical Clinic of the University of Munich conducted a number of experiments with the electromagnetic metal detector in order to establish the following four diagnostic possibilities of this instrument:*

*1) Distance of Metallic Foreign Body from Abdominal Wall.*—A metallic body will produce one particularly strong reaction at a certain spot on both the lateral and ventral abdominal walls. These are called the "maximum points" (fig. 1). The

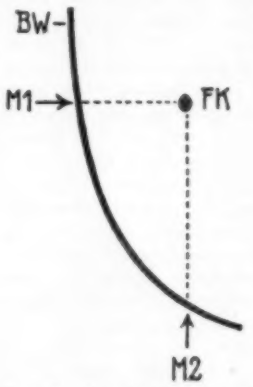



Fig. 1—Diagram for determining the position of the metalic foreign body (FB) with two maximum points ($M_1$ and $M_2$); AW = abdominal wall.

difference in the intensity of the reaction indicates the distance of the foreign body from the maximum point on each of the abdominal walls.

*2) To Locate the Metallic Body.*—The reticulum is schematically considered in sections (fig. 2) as: (1) floor; (2) cardiac section; (3) diaphragmatic section; (4) the

*This instrument is being imported by Dr. S. Jackson, 4713 Colorado Ave., N.W., Washington 11, D.C.

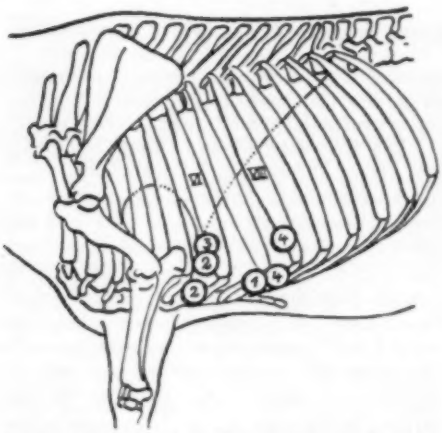


Fig. 2—Maximum points for metal situated in sections 1, 2, 3, and 4 of the reticulum (left side of the body).

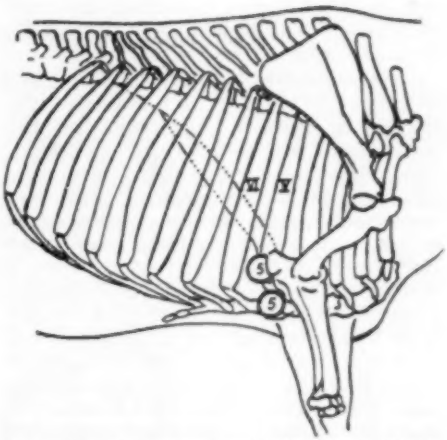


Fig. 3—The two maximum points (5) for metal situated in the liver section of the reticulum (right side of the body).

ruminoreticular fold; and (5) liver section (fig. 3). Metal situated on the floor of the reticulum is detected at the seventh or eighth rib. If it is situated medially, the maximum point is in the sternal region; if laterally, the maximum point is caudal to the olecranon.

For metal situated in the cardiac section of the reticulum, the first maximum point is found behind the olecranon when the elbow is pulled forward and the probe is moved dorsoventrally toward the sternum right behind the olecranon.

For metal in the diaphragmatic section of the reticulum, the first maximum point is at the sixth rib right behind the olecranon and somewhat dorsal to it. The reaction even from small pieces of metal is so intense that it is not necessary to establish the second maximum point on the ventral abdominal wall. For metal in the section of the ruminoreticular fold, the first maximum point is at the eighth or ninth rib at the left of the sternum, and the second maximum point at the same ribs on the lateral abdominal wall.

Metal in the liver section of the reticulum is detected on the right side of the body. The first maximum point is just behind the olecranon after the elbow is pulled slightly forward, and the maximum point is then found at the fifth or sixth rib about 2 to 3 inches to the right of the sternum by moving the probe dorsoventrally toward the sternum just behind the olecranon.

*3) Differential Diagnosis Between Loose, Non-perforating and Penetrating Metal.*—The probe is held at the point of strongest reaction. The contraction of the rumen will carry the loose metal away from the abdominal wall and the probe. After 5 to 10 seconds, the dilation of the rumen will bring the loose metal to its previous position. Thus, the periodical decrease and increase of the reaction, simultaneously with rumen contractions, indicate a loose, nonperforating object. With one exception, metal perforating the wall of the rumen or reticulum remains at the same distance from the probe. The exception is that metal penetrating the ruminoreticular fold changes its position relative to the probe during rumen contractions. This differential diagnosis becomes impossible if there are no contractions, as in the later stages of the disease.

*4) Other Uses of Metal Detector.*—This instrument could be successfully used in diagnosing magnetic metals in other organs and in other animals. The author indicates that it is also possible to differentiate between round metallic bodies and long metallic bodies. The instrument can not indicate pain-causing foreign bodies in all cases. It is only an aid to diagnosis.—[*H. Rieger: Experimental Studies on the Value of the Metal Detector in Surgical Diagnosis. Tierärztl. Umschau, (1956): 97.*]—S. JACKSON.

# Editorial

## The Problem of Refugee Veterinarians

Developments in Russian-dominated Hungary late in 1956 again accentuated the problem of suitable employment for the professional people—veterinarians, physicians, dentists, nurses—among the refugees brought to this country. This was pointed out in a placement-assistance query in last month's JOURNAL (Jan. 1, adv. page 14.

Most, if not all, of the persons with professional training among the 20,000 and more Hungarians coming to the States will be unable to practice independently and so earn a livelihood until they can meet licensure requirements. The AVMA has been asked to help the refugee veterinarians find employment either as assistants to practitioners, as research technicians, or in other work for which they are qualified.

The appeals for such employment far outnumber the occasional offers received at Association headquarters.

The present situation is not a new one nor is it peculiar to the Hungarian refugees. More than ten years ago, the status of foreign veterinary graduates coming to this country as refugees, during and in the aftermath of World War II, required attention; it was discussed in these columns (*see* JOURNAL, Feb., 1948: 159-160) and again in 1950 (April: 312-313).

### EVALUATION OF FOREIGN SCHOOLS

In the mid-1940's, the AVMA Council on Education took steps to evaluate foreign veterinary schools and to indicate those with over-all ratings comparable to those of accredited American schools. On this basis, the Council recommended that graduates of certain foreign veterinary colleges be considered on an equal basis with those of approved schools in this country and Canada. The evaluation project continues, and the list of evaluated foreign schools has gradually increased; currently, 29 schools in 19 foreign countries are on the evaluated list.

Over the years, this project has been helpful to all concerned. Many state examining boards have accepted the Council's recommendations; so have some other agencies concerned with the qualifications of foreign-trained professionals. This has enabled many foreign veterinary graduates to qualify for licensure and practice, or for other professional work, and so become useful and valued members of their communities and of the veterinary profession.

Unfortunately, however, a number of foreign-trained veterinarians were and are graduates of schools "behind the Iron Curtain"; most of these schools could not be evaluated because of lack of accurate data about them. To meet this situation, the AVMA set up an academic standards board to review the credentials of graduates of unevaluated schools and endeavor to determine if they are qualified for state board examinations. Such reviews are made only at the request of the state board to which the foreign graduate has applied for examination. This procedure has been helpful in a number of cases but has limited application.

### CITIZENSHIP REQUIREMENTS

Another qualification which foreign graduates encounter is that of U. S. citizenship, a requirement in the practice acts of 27 states. Among the 27 states are those with the large metropolitan areas in which refugee foreign-born people usually are first domiciled. This means that most of the current refugee veterinarians, if they wish to qualify for licensure, will have to locate in states where citizenship is not a requirement.

The number of veterinarians among the current refugees is not presently known but, presumably, is not large. It is hoped that they can be suitably placed without too much difficulty.

### WE HAVE AN OBLIGATION

We have a moral and professional obligation to explore all aspects of the foreign graduate problem and to determine how the immigrants' professional skills can best be utilized. Every reasonable consideration should be given to those who have come to this country as refugees from tyranny with the intention of becoming citizens and the hope of making a livelihood in their chosen professions.

ABSTRACTS

## Carcinomas of the Bovine Eye

A total of 722 ocular squamous cell tumors, collected at necropsy from 532 cattle, were found in a 12-month survey of bovine eye tumors in three Denver abattoirs. Of the 532 cattle, 52 had bilateral squamous cell tumors. It was proposed that benign ocular squamous cell tumors be designated as epidermal plaques or papillomas and their malignant counterpart as early squamous cell carcinomas or squamous cell carcinomas.

A detailed study was made of 613 of the ocular tumors, using the most malignant neoplasm or group of neoplasms from each eye studied. The other 109 tumors were independent and of a more benign classification, occurring as one or more additional growths on the affected eyes. Of the 613 tumors, 471 were diagnosed as squamous cell carcinomas, 30 as early squamous cell carcinomas, 38 as epidermal papillomas, and 74 as epidermal plaques. Of the 471 carcinomas, 22 had metastasized to the parotid lymph nodes and four of these had additional metastatic lesions. Ulcerated surfaces were present on 199 of the carcinomas. Of 335 carcinomas involving the eyeball, 67 had penetrated into the anterior chamber of that structure. —[*A. W. Monlux, W. A. Anderson, and C. L. Davis: The Diagnosis of Squamous Cell Carcinomas of the Eye (Cancer Eye) in Cattle. Am. J. Vet. Res., 18, (Jan., 1957): 5-34.*]

## Virulence of Leptospira Pomona

A strain of *Leptospira pomona,* isolated from a cow two years prior to this experiment and maintained in Schuffner's medium with intermittent passage in animals, was established in hamsters by direct passage of infected blood. The organism increased in virulence and, at the sixteenth passage, the hamsters died on the fourth day; by the twentieth passage, all died on the third day. At the twenty-sixth passage, the virulence appeared to decline and death occurred on the sixth day.

In a second serial passage, the results were similar except that the virulence developed more slowly. At the fifty-first passage, 0.2 ml. of a $10^{-9}$ dilution of tissue suspension produced death of a hamster in 11 days. Tissues from the seventh hamster passage caused severe leptospirosis in 2 young bulls and 1 pregnant heifer. The organism appeared to lose virulence for cattle after 23 or more passages in hamsters since 3 young bulls developed only mild clinical symptoms.—[*A. H. Hamdy and L. C. Ferguson: Virulence of Leptospira Pomona in Hamsters and Cattle. Am. J. Vet. Res., 18, (Jan., 1957): 35-42.*]

## Isolation of Leptospira from Surface Water

It is shown that *Leptospira pomona* may be readily isolated from surface waters in localities where bovine leptospirosis is occurring in epizootic form. The organism was recovered by laboratory animal inoculation from three streams in geographically widely separated natural drainage basins and from five pools on three different ranches. Four of the pools were created by overflow from stock tanks, the other by a leaking irrigation hydrant.

The organism was recovered from the water samples by inoculation of weanling hamsters and guinea pigs; it was isolated from five samples by culturing peritoneal fluid, blood, or kidney tissue from the inoculated animals. These five cultures were conclusively identified as *L. pomona* by agglutination-lysis tests with specific high-titer antiserums. Two of the additional strains, recovered by animal inoculation but not by culture, were identified by the appearance of specific antibody in the inoculated animal and the third by demonstration of morphologically typical spirochetes in the kidney of the inoculated hamster.

The recoveries were correlated in every instance with the presence of cattle excreting infectious urine, as was shown by dark-field examination and laboratory animal inoculation of urine specimens. —[*R. W. H. Gillespie, S. G. Kenzy, Leif M. Ringen, and Frank K. Bracken: Studies on Bovine Leptospirosis. III. Isolation of Leptospira Pomona from Surface Waters. Am. J. Vet. Res., 18, (Jan., 1957): 76-80.*]

## Listeric Infection of the Brain

The authors suggest that in naturally occurring encephalitic listerosis in animals, *Listeria monocytogenes* penetrates through the ocular, oral, or nasal mucous membranes and spreads along the branches of the trigeminal nerve to the medulla oblongata. This is based on the detection of typical lesions in the trigeminal nerve and medulla of goats, rabbits, and mice exposed to the bacterium by either ocular instillation, inoculation through minute wounds in the oral or nasal mucous membranes, or by feeding sharp feeds soaked in a suspension of the bacterium.

Some animals developed encephalitis which terminated fatally. Although others remained asymptomatic, histological examination of the trigeminal nerve and medulla revealed perivascular cuffing and focal collections of leukocytes or glia cells which were essentially identical to those seen in natural infections. This latter finding suggests that inapparent listeric infections may occur in animals. —[*Okimasa Asahi, Tetsuya Hosoda, and Yutaka Akiyama: Studies on the Mechanism of Infection of the Brain with Listeria Monocytogenes. Am. J. Vet. Res., 18, (Jan., 1957): 147-157.*]

## Propagation of Vesicular Exanthema Virus

Four immunotypes of vesicular exanthema virus (types A, B, C, and D) were propagated on pig embryo skin grafted to the chorioallantoic membrane of embryonating chicken eggs.—[*E. E. Stuart and R. A. Bankowski: Propagation of Vesicular Exanthema Virus on Xenoplastic Grafts. Am. J. Vet. Res., 18, (Jan., 1957): 109-111.*]

# THE NEWS

## Dr. Grim Honored

The American Board of Veterinary Public Health, at its annual meeting, held in October, 1956, resolved to cite Dr. George W. Grim for his outstanding contributions to the field of veterinary public health.

Dr. Grim's death occurred on the same date as the resolution and, as a result, the citation will be presented to his widow in Ardmore, Pa., by Dr. H. J. Stafseth, president of the American Board of Veterinary Public Health.

## Dr. Drudge, AVMA Research Fellow, Author of Article on Sheep Nematodes

Dr. J. H. Drudge (MSC '43), after receiving his D.V.M. degree, served in the Armed Forces for four years. In 1947, he was granted an AVMA research fellowship to study at the School of Hygiene and Public Health, Johns Hopkins University, where he was granted the D.Sc. degree in June, 1950. His thesis, "Studies on the Absorption and Therapeutic Effectiveness of Arsenamide Following Oral Administration in the Treatment of Canine Filariasis," was published in the April, 1952, *American Journal of Veterinary Research*, pp. 220-235.

Dr. J. H. Drudge

In 1950, Dr. Drudge became parasitologist with the Department of Animal Pathology at the University of Kentucky Agricultural Experiment Station where he has engaged in research on worm parasites of horses and sheep and, more recently, cattle. His studies on horses have included research on the low-level phenothiazine administration for strongyle control, evaluation of chemotherapeutic agents for the removal of ascarids and bots, and the various aspects of *Trichostrongylus axei*, which has been found to be infective for rabbits as well as horses, cattle, and sheep.

Dr. Drudge and his co-workers have also made comparisons of strains of *Haemonchus contortus* susceptibility to phenothiazine. The progress on these studies have been reported in various publications. An abstract of one, "Strain Variation in the Response of Sheep Nematodes to the Action of Phenothiazine. I. Studies of Mixed Infections in Experimental Animals," appears on page 140 of this JOURNAL.

## Dairy Industry Supply Association to Meet

A meeting of the Dairy Industry Supply Association will be held at the Shoreham Hotel, Washington, D.C., March 14 and 15, 1957. It is expected that nearly 450 American and Canadian dairy supply and equipment firms will send representatives to the Association's thirty-eighth annual meeting.

## Animal Care Panel Meets

The seventh annual meeting of the Animal Care Panel was held in Chicago, Nov. 30-Dec. 1. Attendance at this meeting was the largest in history of this organization—nearly 500 were in attendance. The newly elected officers are Dr. Jules Cass, president; Dr. Bennett J. Cohen, first vice-president; Dr. Victor Schwentker, second vice-president; Dr. Robert J. Flynn, secretary-treasurer; and Dr. N. R. Brewer, editor. The regular publication of the organization "The Proceedings of the Animal Care Panel" which to date has been issued annually on the occasion of the annual meeting, will be published quarterly in the future.

## American Association of Equine Practitioners —Second Annual Meeting

The second annual meeting of the American Association of Equine Practitioners was held at the LaSalle Hotel, Chicago, on Dec. 17-18, 1956. It was preceded by a meeting of officers and executive committee members on December 16.

More than 100 members and guests were in attendance at the business session on the morning of the first day to hear an address by A.A.E.P. President W. F. Guard, Ohio State University, and reports by other officers, committees, and delegates. Dr. Guard stressed the need for active member interest and participation in the work of the association and reported on his contacts during the year with leaders and related associations in the horse-racing field.

The scientific program was outstanding in subject matter and interest and included papers by R. L. Lundvall, Ames, Iowa (fibial fractures); B. F. Trum, Washington, D. C. (calcium metabolism in equidae); A. C. Todd, Madison, Wis. (principles of parasite control in practice); L. E. Johnson, Columbus, Ohio (application and use of radium in lameness); J. B. Chassels, Brampton, Ont. (practical application of alpha-tocopherol); Evan Chute, London, Ont. (alpha-tocopherol in fertility); J. D. Gadd, Cockeysville, Md. (recto-

vaginal fistula and other equine surgery motion pictures); E. R. Doll, Lexington, Ky. (respiratory diseases). AVMA President W. O. Kester, was the speaker at the dinner on the first day of the meeting.

Newly elected officers are Dr. E. A. Churchill, Centreville, Md., president-elect, and Dr. M. L. Scott, Akron, Ohio, secretary-treasurer-elect, who was given a special assignment as assistant secretary to help carry on some of the association's activities during the coming year.

Dr. Horace N. Davis, Lexington, Ky., who has served during the past year as president-elect, was installed as president, and Dr. J. A. Solomon, Cleveland, Ohio, as secretary-treasurer.

The applications of nearly 20 new members were received and reviewed during the meeting. The next annual meeting of the A.A.E.P. will be held in Chicago, Dec. 15-17, 1957.

## WHO Rabies Meeting

Dr. E. S. Tierkel, U. S. Public Health Service; Dr. M. M. Kaplan, Division of Communicable Diseases Services, WHO; and Dr. D. J. Dean, Veterinary Public Health Consultant, WHO, participated in the Third WHO Expert Committee on Rabies meeting at the Pasteur Institute in Paris, France, Nov. 26-Dec. 1, 1956.

A new technique for protecting persons whose occupations expose them to the possibility of bites of rabid animals was delineated by the committee. The new approach involves providing basic protection by giving very small doses of chicken embryo vaccine, or a few doses of ordinary nervous tissue vaccine, followed by a single booster dose of vaccine after they are bitten instead of the long (14-21 day) schedule of inoculations now performed.

Following the meeting in Paris, Dr. Tierkel visited the Pasteur Institute at Novi Sad, Yugoslavia, as a consultant on sylvatic rabies.

## Postgraduate Assembly in Fertility and Sterility

The New York Medical College-Metropolitan Medical Center announces the First American Postgraduate Assembly in Fertility and Sterility will be held in New York City at the college and affiliated hospitals, May 18-31, 1957.

Emphasis in the course will be placed on the clinical aspects of human infertility, including recent advances in diagnosis and therapy.

The course has been scheduled for the end of May, 1957, to allow the registrants the opportunity to attend the annual scientific meetings of the American Society for the Study of Sterility, the Endocrine Society, and the American Medical Association which will be held in New York starting May 31, 1957.

Information and applications may be obtained from Dr. Ralph E. Snyder, dean, New York Medical College, 1249 Fifth Ave., New York 29, N. Y. Registration is of necessity limited. The tuition is $150.

## Ralston Purina Fellowship Awards Program for 1957-1958

The Ralston Purina Company has announced that ten fellowships will be granted for graduate study in agricultural research during 1957-1958. The awards will be made in the fields of nutrition and physiology research as applied to dairy, poultry, and animal husbandry; and in research in transmissible diseases of livestock and poultry. Not more than three fellowships will be granted in dairy husbandry, animal husbandry, and poultry husbandry; and not more than one in the field of veterinary science.

Selection of the recipients will be made by a committee of an officially appointed representative from each of the following organizations: Poultry Science Association, American Veterinary Medical Association, American Dairy Science Association, American Society of Animal Production, Association of Land-Grant Colleges, and the Ralston Purina Company.

Those interested should write to the Ralston Purina Research Awards Committee, c/o Mr. J. D. Sykes, Ralston Purina Company, St. Louis 2, Mo.

## Report of the Ninth Annual Meeting of the National Association of Artificial Breeders

The ninth annual meeting of the N.A.A.B., held in Saint Paul on Sept. 19, 1956, was attended by more than 500 delegates from 34 states, British Columbia and Ontario (Canada), Israel, South Africa, Puerto Rico, British West Indies, Great Britain, and Costa Rica. The hosts were Consolidated Breeders Cooperative, North West Breeders, Minnesota Valley Breeders Cooperative, and the University of Minnesota.

The N.A.A.B. is comprised of 88 member organizations, 75 of which are located in the United States, 11 in Canada, one in Puerto Rico, and one in Israel. Members of this organization are responsible for the insemination of 4,845,811 cows, distributed throughout more than 650,000 individual herds. There are many veterinarians connected with this $33,000,000 industry, either directly as managers, technicians, owners, as advisors in local areas, or as consultants or participants in the research projects.

The N.A.A.B. was organized at Tiffin, Ohio, in 1946, and its business is directed by seven officers elected from the managers or directors of member associations.

The purpose of this organization is to promote the use, and to improve the techniques, of artificial insemination of cattle. The industry has accomplished a remarkable program of policing its

own members. An ethics committee prescribes the proper manner in which bull stud managers, personnel, and technicians should conduct themselves among their own profession and between the industry and other associated organizations.

They have asked for an accepted recommendation from the AVMA committee on Animal Reproduction and Artificial Insemination sire health to prevent the dissemination of reproductive diseases through contaminated semen.

Selection, proving, and use of sires has resulted in artificially sired daughters, producing more butterfat each year than their own dams.

The Association has accomplished much in requiring uniform standards of printed pedigrees and provings on bulls.

The industry is particularly interested in cooperating with state and federal regulatory officials, regarding interstate and international shipment of semen. It is the hope of the member organizations that the quarantine division of the ARS will accept the standards set up by the AVMA committee on animal reproduction and artificial insemination as the health qualification for semen to be exported from the United States. Our own profession must assist those in the artificial insemination business in setting up practical workable regulations which will enable our livestock industry to enjoy the benefits to be derived from the export of semen to other parts of the world without jeopardizing the health of the cattle in those areas. Minimum qualifications for genotype and phenotype of selected sires will surely become a part of the final regulation.

Research has been a constant theme throughout the period of existence of the N.A.A.B. A conserted drive to control inherited defects in dairy cattle is now being conducted. Such conditions as hairlessness, single-toed cattle, fused teats, flexed pastern, taillessness, and abnormal mucosal lining of the digestive tract are under close scrutiny.

Research grants have been set up through the years which now total an appreciable amount annually. The member associations have voted to assess themselves ¼ of a cent per cow inseminated or approximately $12,500 annually for research purposes. Semen preservation, frozen semen techniques, and reproductive diseases are all under the research regime.

The N.A.A.B. publishes a monthly house organ which has been gaining international recognition as a source of information on subjects relative to artificial insemination of cattle. It will soon be the official source of information on the entire field of scientific artificial insemination.—*H. G. Hill, D.V.M., Fort Collins, Colo., AVMA Representative to N.A.A.B.*

## U. S. GOVERNMENT

**Dr. Williams Named Head of Program Services.**—Dr. James E. Williams, Beltsville, Md., has been appionted head of the Program Services Section, Animal Disease Eradication Branch, ARS, U.S.D.A., effective September 24.

In his new position, Dr. Williams will be

Dr. James E. Williams

responsible for the planning and developing of diagnostic services to augment the various regulatory programs of the Animal Disease Eradication Branch; the supervision and control of the production of diagnostics for the brucellosis and tuberculosis eradication programs; cooperative activities with the A.I.Q. branch in establishing purity and potency standards for animal biologicals; coordination of laboratory activities for the diagnosis of foreign and unusual domestic diseases in the various states; and planning the control and diagnostic sections of the new animal disease laboratory to be located in Ames, Iowa.

Since 1954, Dr. Williams has been project leader with the Bacterial and Mycotic Diseases Section of the Animal Disease and Parasite Research Branch, U.S.D.A.

• • •

**Veterinary Personnel Changes.**—The following changes in the force of veterinarians in the U.S.D.A. are reported as of Dec. 6, 1956.

TRANSFERS

Nelson R. Boyes, from Omaha, Neb., to St. James, Minn.

Harold L. Church, from Portland, Ore., to Hillsboro, Ore.

Turner Dennis, from Gainesville, Ga., to Stanley, Va.

Vernon G. Fenton, from Lancaster, Calif., to Fontana, Calif.

Robert A. Gale, from Tallahassee, Fla., to New York, N.Y.

Kenneth R. Hoyt, from Olympia, Wash., to Jackson, Miss.
Pransas Lapatinskas, from Russellville, Ark., to Hemlock, Mich.
Wiley J. Lucas, from Rogers, Ark., to Chicago, Ill.
George J. B. Murray, from Sioux Falls, S. Dak., to Omaha, Neb.
Myron A. Nelson, from Modesto, Calif., to Fontana, Calif.
James C. Nowlen, from Hemlock, Mich., to Chicago, Ill.
Ado Pool, from Modesto, Calif., to Portland, Ore.
Edward W. Thomas, from Chicago, Ill., to Fayetteville, Ark.
Forrest A. Underwood, from Chicago, Ill., to Frankfort, Ohio.
Louis C. Webster, from Harrisonburg, Va., to Woodstock, Va.

RETIREMENTS

Thomas W. Boman, Little Rock, Ark.
Charles L. Davis, Washington, D.C.
Norwood B. Giles, Jefferson City, Mo.
Harry T. Grossman, Detroit, Mich.
Oren E. Heri, Washington, D.C.
Ralph P. Reid, Little Rock, Ark.
Charles W. Turrell, Memphis, Tenn.
Edgar E. Williams, Montgomery, Ala.

## AMONG THE STATES AND PROVINCES

### Alabama

**Dr. Sugg Honored by Central Alabama V.M.A.**—The Central Alabama Veterinary Medical Association, on Nov. 1, 1956, presented

Dr. Redding S. Sugg

Dr. Redding S. Sugg, dean, School of Veterinary Medicine, A.P.I., with a bronze shield plaque in recognition of his outstanding contributions and service to the veterinary profession and the Central Alabama Veterinary Medical Association. In addition to the plaque, Dr. Sugg was awarded lifetime membership in in the Central Alabama V.M.A.

### California

**Southern Association Sponsors Fund-Raising Dance.**—The first of what is hoped will be an annual event for a most worthy cause is the Southern California V.M.A.-sponsored fund-raising dinner and dance with all profits going to the AVMA Research Fund.

Left to right—Dr. W. W. Putney, president, Southern California V.M.A.; Dr. Mack Scott, president California State V.M.A.; Miss May Wynn; and Mr. Vic Rodman.

A special attraction for the occasion was the attendance of Miss May Wynn and Mr. Vic Rodman from the "Noah's Ark" production. Miss May Wynn, "Noah's Ark's" popular receptionist, Liz Clark, presented a check for $134 to Dr. Mack Scott, president of the California State V.M.A., who accepted the donation in behalf of the AVMA Research Fund.

The results of the election of officers of the Southern California Veterinary Medical Association for 1957 were announced Dec. 4, 1956. Those elected for the ensuing year are Dr. W. D. Ommert, president-elect; Dr. Howard Taylor, first vice-president; Dr. Burton Pike, second vice-president; Dr. Floyd Wilcox, treasurer; and Dr. Robert Schroeder, secretary.

The incoming president is Dr. P. C. Olson.

• • •

**State Association.**—The 1957 midwinter conference of the California State V.M.A. was held in Davis, Calif., Jan. 28-30, 1957. Guest speakers included Drs. R. V. Johnston, Indianapolis, Ind.; C. Lawrence Blakely, Boston, Mass.; O. R. Adams, Fort Collins, Colo.; Donald C. Boughton (Ph.D.), Wilmington, Del.; and W. M. Stanley (Ph.D.,) director, Virus Laboratory, University of California, Berkeley. Wednesday morning, January 30, the large and small animal demonstrations were presented through closed-circuit television made possible by the sponsorship of Allied Laboratories, Inc. Other features of the conference included a preconference luncheon of large animal practitioners at which time a panel discussion on "The Economics of Large Animal Practice" was led by Dean Ewald T. Grether, School of Business Administration, Univ. of California. The American Animal Hos-

pital Association members held a dinner meeting Monday, Jan. 28, 1957, and the California Veterinary Alumni meeting was held Tuesday evening, January 29, at which time the portrait of Dr. George Hart was presented to the School of Veterinary Medicine.

The Western State Poultry Disease Workers' Conference was held Tuesday, January 29, in connection with the midwinter conference.

• • •

**Alameda Contra Costa Association Elects Officers for 1957.**—The following officers of the Alameda Contra Costa Veterinary Medical Association were elected and installed at the regular meeting of the Association held November 28, 1956: Dr. John Turver, president; Dr. Leo Goldston, vice-president; Dr. George Muller, secretary; and H. E. McClung, D. B. Martin, T. B. Condon, and L. M. Proctor, directors.

**Officers of the Alameda Contra Costa V.M.A. are, left to right—John Turver, president; George Muller, secretary; Nate Pugatch, retiring president; and Leo Goldston, retiring secretary.**

## Connecticut

**Fairfield County Association.**—At the regular annual meeting of the Fairfield County Veterinary Medical Association held at the Chimney Corner Inn, Stamford, Conn., Wednesday, Dec. 5, 1956, election of officers was held. The following officers were elected: Dr. George G. Pickett, Stratford, president; Dr. William R. Leggett, Westport, president-elect; and Dr. Donald Krushak, Bridgeport, secretary-treasurer.

## Florida

**State Association.**—The Florida State V.M.A. held a special dinner meeting on Dec. 7, 1956, in Miami, at which time the AVMA Humane Act Award winner, Glen T. Allen, was presented with the award by Dr. Jack O. Knowles. Following a dinner and the presentation of the award, the winner and members of the Florida State V.M.A. participated in a television program highlighting this presentation. Dr. Ed. Whaley, Kissimmee, Fla., president of the Florida State V.M.A. reviewed the establishment of the AVMA Humane Act Award. The program and presentation were arranged by Dr. Stanley C. Wasman, chairman of the Public Information Committee of the Florida State V.M.A.

## Indiana

**Michiana Association.**—The Michiana V.M.A. meets regularly the second Thursday of each month. The January meeting included a talk on equine practice by Dr. Paul Meginnis of Danville, Ill. The February meeting (Feb. 14, 1957) is the business meeting for the election of officers. On March 14, 1957, Dr. Wade Brinker, M.S.U., will present a talk on "Use of Pins in Hip Luxations."

• • •

**State Association.**—The seventy-third annual convention of the Indiana V.M.A. was held in Indianapolis Jan. 16-18, 1957. Guest speakers included Drs. F. Kral, Philadelphia, Pa.; Jake E. Mosier, Manhattan, Kan.; William G. Magrane, Mishawaka, Ind.; Lee Railsback, Ellsworth, Minn.; Chester E. Harries, Medford, Wis.; A. C. Todd, Madison, Wis.; C. F. Chappel, Greenfield, Ind.; and J. P. Arnold, St. Paul, Minn. Dr. John G. Hardenbergh, executive secretary of the AVMA, attended the meeting and participated in the program.

## Kentucky

**State Association.**—The annual winter meeting of the Kentucky V.M.A. was held in Lexington, Dec. 10-11, 1956. Guest speakers included Drs. Frank Fielder, Bloomfield, N. J.; J. L. George, Lincoln, Neb.; LeRoy E. Johnson, Columbus, Ohio; Robert V. Johnston, Indianapolis, Ind.; and John L. Jones, Cincinnati, Ohio.

Officers of the Kentucky V.M.A. are Drs. H. A. Gray, Bowling Green, president; V. L. Nickell, Winchester, first vice-president; H. H. Sutton, Lexington, second vice-president; T. S. Maddox, Greenville, third vice-president; and R. H. Singer, Lexington, secretary-treasurer.

The next regular meeting of the Kentucky V.M.A. will be held in July in Louisville.

s/A. J. STEARNS, *Resident Secretary.*

• • •

**Semiannual Meeting of Kentucky Auxiliary.**—The semiannual meeting of the Women's Auxiliary to the Kentucky Veterinary Medical Association was held Dec. 10-11, 1956, at the Phoenix Hotel, Lexington, in conjunction with

the forty-fifth meeting of the Kentucky V.M.A. Fifty-two women attended the luncheon.

Mrs. Lilija Macs, a displaced person from Latvia and pharmacist at the Good Samaritan Hospital in Lexington, was guest speaker. She spoke of her experiences of oppression for ten years by the Germans and Russians.

Cocktails, dinner, and dancing were enjoyed by 140 veterinarians and their wives at the Phoenix Hotel. The following day, the women enjoyed a tour of the fabulous Blue Grass Horse Farms as well as seeing the outstanding horse, Nashua. The central Kentucky veterinarians sponsored free coffee and doughnuts both mornings for the veterinarians and their wives.

s/MRS. ROBERT H. FOLSOM, *Secretary.*

## Massachusetts


**Massachusetts Veterinary Association prepared a public relations booth at the Eastern States Exposition held in Springfield, Mass. The exhibit, set up in one of the cattle barns, attracted wide attention. Subjects portrayed in the exhibits included meat inspection, mastitis control, rabies, trichinosis, and brucellosis.**

## Nebraska

**State Association.**—The sixtieth annual meeting of the Nebraska State V.M.A. was held in Lincoln, Dec. 5-7, 1956. New officers of the Association are Dr. E. Von Tour, president; Dr. Dave Phillipson, vice-president; and W. T. Spencer, secretary-treasurer.

• • •

**Nebraska Women's Auxiliary Meets.**—At the December 4 meeting of the Women's Auxiliary to the Nebraska State Veterinary Medical Association in Lincoln, held in conjunction with the sixtieth annual meeting of the Nebraska State Veterinary Medical Association in the Hotel Lincoln, the following officers were elected: Mrs. J. H. Magilton, David City, *president;* Mrs. Elmer Metcalfe, Dewitt, *vice-president;* Mrs. Norman Kruse, Genoa, *secretary-treasurer.*

s/MRS. CARL BRILLHART, *Retiring President.*

• • •

**Dr. Fisher Appointed Director of Nevada Animal Industry.**—Dr. William F. Fisher has been appointed director of the Division of Animal Industry of the Nevada State Department of Agriculture, effective Jan. 1, 1957.

For a number of years, he has been assistant veterinarian in charge of the Agricultural Research Service, Animal Disease Eradication Branch Station, Reno, Nev. Dr. Fisher retired from federal service on Dec. 31, 1956.

During his service as a federal veterinarian, he received the Certificate of Merit from the U. S. Department of Agriculture, commending him for performance substantially exceeding the requirements of his position.

Dr. Fisher is past-president of the Intermountain Veterinary Medical Association and the Nevada State Veterinary Association. He is secretary of the Nevada State Veterinary Association and delegate to the AVMA House of Representatives.

## New Jersey

**Metropolitan Association.**—At the Jan. 16, 1957, meeting of the Metropolitan New Jersey Veterinary Medical Association held at the Academy of Medicine Building, Newark, Dr. Julius Fishler, Elkhart, Ind., discussed feline medicine.

## New York

**New York City Association.**—At a meeting of the Veterinary Medical Association of New York City held on Dec. 5, 1956, at the New York Academy of Sciences, New York City, Dr. J. E. Mosier, School of Veterinary Medicine, Kansas State College, Manhattan, discussed the use of furadantin in small animal practice.

s/C. E. DECAMP, *Secretary.*

• • •

**Cornell Conference.**—The Forty-Ninth Annual Conference for Veterinarians, sponsored by the New York State Veterinary College, Cornell University, Ithaca, N. Y., was held January 2-4, 1957.

Guests speakers, other than those from the staff of New York State Veterinary College, included Dr. Arthur A. Allen, director, Laboratory of Ornithology, Cornell University; Dr. James Archibald, Guelph, Ont; Dr. Frank Bloom, Flushing, N. Y.; Dr. Gabel H. Connor, East Lansing, Mich.; Dr. Robert F. Gentry,

Pennsylvania State University; Brig. Gen. Wayne O. Kester, president, AVMA; Dr. John M. Kingsbury, professor of Botany, Cornell, University, Dr. Sam H. McNutt, University of Wisconsin; Dr. James H. Mark, University of Pennsylvania; Dr. Charles R. Omer, Albany, N. Y.; Dr. Edwin B. Smith, Canton, N. Y.; Dr. Isaac V. Stoll, Rome, Pa.; Dr. Douglas F. Watson, Blacksburg, Va.; and Dr. Charles J. York, Indianapolis, Ind.

• • •

**Women's Auxiliary.**—The eighth annual meeting of the Women's Auxiliary to the New York State Veterinary Medical Society was held at the Concord Hotel, Kiamesha Lake, N. Y., in conjunction with the sixty-fifth annual meeting of the New York State Veterinary Medical Society.

The program included a luncheon-business meeting, at which our own member, Mrs. W. A. Hagan, spoke in her capacity as vice-president of International Women's Auxiliary to the Veterinary Profession. A successful hobby show and sale; and participation in a variety of social activities with the men, was climaxed by the annual cocktail party and banquet.

s/JANE W. FIELD, *Secretary.*

### Oklahoma

**State Association.**—The annual meeting of the Oklahoma Veterinary Medical Association was held in Oklahoma City, Jan. 13-15, 1957.

Out-of-state speakers included Dr. W. W. Armistead, College Station, Texas, president-elect of the AVMA; Dr. Paul Jungerman, Aurora, Mo.; Dr. R. J. Beamer, College Station, Texas; Dr. C. H. Mikkelson, Phoenix, Ariz.; and Dr. George W. Mather, St. Paul, Minn.

### Tennessee

**State Association.**—The forty-ninth annual meeting of the Tennessee V.M.A. was held in Memphis, Jan. 13-15, 1957. Guest speakers included Dr. W. S. Bailey, Auburn, Ala.; Dr. J. E. Greene, Auburn, Ala.; and Brig. Gen. Wayne O. Kester, AVMA president.

### Wyoming

**Dr. Madsen Elected to State House of Representatives.**—Dr. Peter E. Madsen of Sheridan, Wyoming, member of the AVMA Committee on Veterinary Supply Problems, has been elected to the Wyoming House of Representatives as one of the four serving Sheridan County. This is not the first occasion for a Wyoming veterinarian to be in the legislature, but currently he is the only one in office.

## FOREIGN NEWS

### Sweden

**Dr. Lagerlof Becomes Dean of Veterinary College.**—Dr. Nils Lagerlof of Stockholm became dean of the Royal Veterinary College of Sweden on Jan. 1, 1957. Dr. Lagerlof is internationally known for his work in reproductive diseases in cattle. He has visited the United States on several occasions, the first time to discuss breeding diseases with Dr. W. L. Williams at Cornell University in 1927. He also presented a paper entitled "Hereditary Forms of Sterility in Swedish Cattle" before the American Society for the Study of Sterility in San Francisco, June 9-10, 1951.

## DEATHS

★**Fred J. Bardsley** (USC '15), 76, Northboro, Mass., died in November, 1956. Dr. Bardsley, a veteran of the Spanish-American war, had practiced in Burlington for 24 years prior to his retirement in 1939. He was admitted to the AVMA in 1920, and was made a life member in 1952. His widow survives.

**Ralph W. Carmack** (ONT '05), 73, Indianapolis, Ind., died Sept. 18, 1956. Dr. Carmack had served as a poultry inspector with the U. S. Department of Agriculture. He was a member of the Indiana Veterinary Medical Association and had been a member of the AVMA.

★**Noble W. Elsbury** (IND '11), 70, Greenfield, Ind., died in 1956 (date not known). Dr. Elsbury was a general practitioner and a member of the AVMA.

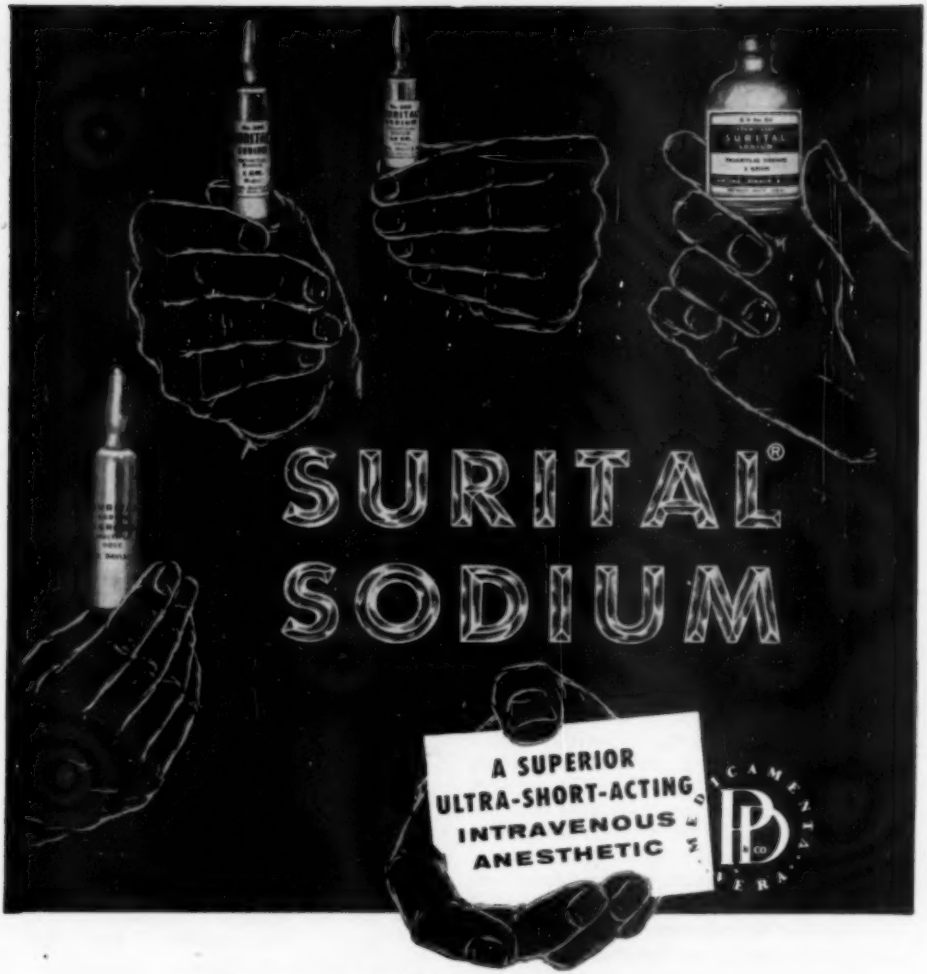
**Walter L. Parrott** (KSC '26), 54, Dover, Del., died Oct. 2, 1956. Dr. Parrott, who had served with the ARS, U. S. Department of Agriculture, was a member of the National Association of Federal Veterinarians and had been for many years a member of the AVMA.

**Charles E. Simpson** (ONT '07), 75, St. Joseph, Mo., died Oct. 27, 1956. Dr. Simpson was for many years veterinarian at the Kansas State Industrial Reformatory at Hutchinson. He moved to St. Joseph on his retirement four years ago.

★**Mitchell J. Smith** (WSC '32), 54, San Diego, Calif., died Oct. 10, 1956. Dr. Smith practiced at Mount Vernon, Wash., and then in Tillamook, Ore., where he also served on the Oregon Board of Examiners in Veterinary Medicine. In 1947, he purchased a pet animal hospital in San Diego and had practiced there since then. Dr. Smith was admitted to the AVMA in 1935. He is survived by his widow and three children.

★**Dail Thornburg** (COL '41), 40, Burley, Idaho, died Nov. 19, 1956. Dr. Thornburg was admitted to the AVMA in 1941.

★ Indicates members of the AVMA.




*The use of SURITAL in animals has shown that induction is smooth and rapid and is free of excitement or irritability or undesirable side reactions.*

**SURITAL SODIUM (THIAMYLAL SODIUM, PARKE-DAVIS) IS SUPPLIED:**

0.2 Gm., 0.3 Gm., 0.5 Gm., 1.0 Gm., 5.0 Gm., and 10.0 Gm. ampoules (Nos. 261, 262, 263, 264, 265, 266); 0.5 Gm. and 1.0 Gm. ampoules with ampoules of Water for Injection, U.S.P.; 1.0 Gm., Steri-Vials (No. 64) (rubber-diaphragm-capped vials); 1.0 Gm. Steri-Vials with ampoules of Water for Injection, U.S.P.

PROFESSIONAL LITERATURE AVAILABLE ON REQUEST

Department of Veterinary Medicine

**PARKE, DAVIS & COMPANY**

DETROIT 32, MICHIGAN

# Principles of Ethics

*During the course of the past several years, the Committee on Ethics has considered a number of inquiries concerning interpretations and application of the Principles of Veterinary Medical Ethics of the American Veterinary Medical Association. A series of discussions relating to various sections of the Principles will appear in subsequent issues of the* JOURNAL.

## False Health Certificates

Paragraph 27 of the Principles of Veterinary Medical Ethics states: "The issuing of false certificates of health on official documents is punishable by summary dismissal from the membership, and careless compliance with official regulations that the veterinarian is entrusted to enforce is deemed a violation of professional honesty."

The foregoing statement, in easily understandable English, represents but one of the basic rules of conduct which are accepted as desirable professional deportment. And yet the regulatory officials of the individual states are occasionally confronted with examples and reports of this very type of irregularity on the part of members of our profession.

It is not easy to understand the mechanics of thought involved in the mind of the veterinarian who libels himself in such manner. Flagrant abuses of this nature are not expected by the general public, nor will they be tolerated of any individual once the facts become public property. The signing of spurious documents becomes at once a menace to public health, whether it be federal or state regulations involved, or, if it pertains to the issuance of certificates of health for a dog or cat for the use of a private party.

The affixing of a veterinarian's signature to a blank certificate, the balance of which is to be completed at the discretion and pleasure of the client, is in effect, a false certificate. We must ever keep in mind that one single case of this kind is sufficient evidence to warrant legal action on the part of state or federal regulatory officers, leading to revocation of license to practice, as well as summary dismissal from membership in professional societies.

The duty of the professional man to his profession, his colleagues, and himself, requires an honest approach to each and every detail as it pertains to his contact with the community. The individual personal integrity of each veterinarian should never be in question.

AVMA COMMITTEE ON ETHICS

# APPLICATIONS

### Applicants—Members of Constituent Associations

In accordance with paragraph (b) of Section 2, Article X, of the Administrative Bylaws, as revised at the annual meeting of the House of Representatives, Aug. 18, 1951, in Milwaukee, Wis., the names of applicants residing within the jurisdictional limits of the constituent associations shall be published once in the JOURNAL.

The following applicants have been certified as members of the constituent association that has jurisdiction over the area in which the applicant resides. This certification was made by the secretary of the constituent association in accordance with Section 2, Article X, of the Administrative Bylaws.

BILETSKY, WALTER C.
527 Division Ave., Barron, Wis.
D.V.M., Veterinary College, Brno, Czechoslovakia, 1926, and Veterinary College, Lvov, Poland, 1928.

BECKLEY, DANN E.
Box 1451, Cristobal, Canal Zone.
D.V.M., Texas A. & M. College, 1943.

BIGMAN, SEYMOUR B.
813 Janos Lane, West Hempstead, N. Y.
D.V.M., Middlesex University, 1946.

BROWNING, OSCAR H.
2023 S. Valley Mills Dr., Waco, Texas.
D.V.M., Texas A. & M. College, 1949.

DAWSON, J. T.
1305 Gladewater Rd., Longview, Texas.
D.V.M., Texas A. & M. College, 1951.

HILL, RICHARD L.
244 Main St., Littleton, N. H.
D.V.M., Middlesex University, 1944.

HUDDLESTON, C. H.
Box 321, Uvalde, Texas.
D.V.M., Texas A. & M. College, 1944.

JAKOBSONS, EDUARDS
455 3rd N., Carrington, N. Dak.
D.V.M., University of Latvia, Riga, 1939.

KNOST, ARTHUR H.
14021 Denton Dr., Dallas, Texas.
D.V.M., Kansas State College, 1934.

LANGHEINRICH, WERNER J.
P.O. Box 496, Green Bay, Wis.
D.V.M., Hannover Veterinary College, Germany, 1948.

LYNCH, ROBERT G.
P.O. Box 547, Minden, Nev.
D.V.M., Middlesex University, 1943.

MILLS, HAROLD B.
2501 Harvard, Midland, Texas.
D.V.M., Texas A. & M. College, 1939.

MURTISHAW, THOMAS R., JR.
438 Clutter Ave., San Antonio, Texas.
D.V.M., Texas A. & M. College, 1955.

PATTERSON, VIRGIL R.


FURADANTIN is one of the nitrofurans—a unique class of antimicrobials, unrelated to antibiotics or sulfonamides. Like all the nitrofurans, FURADANTIN is bactericidal to a wide range of both gram-negative and gram-positive organisms. It is nontoxic to kidneys, liver and blood-forming organs. Development of bacterial resistance to FURADANTIN is negligible.

**In canine tracheobronchitis** (kennel cough), FURADANTIN stopped the cough in 11 of 12 dogs within 3 days. Within 1 week, all were fully recovered. There were no recurrences.[1]

1. Mosier, J. E.: Vet. M. 50:605, 1955. 2. Breakey, R. S.; Holt, S. H., and Siegel, D.: J. Michigan M. Soc. 54:805, 1955.

**Dose:** 1 to 2 mg. per lb. of body weight, 3 times daily, for 4 to 7 days.

**In urinary tract infections** of dogs and cats, FURADANTIN rapidly produces high antibacterial concentrations in urine. As reported on urinary tract infections in humans, "it appears that Furadantin is one of the most effective single agents available at this time."[2]

**Dose: Acute cases:** 1 to 2 mg. per lb. of body weight, 3 times daily, for 7 to 10 days or longer. **Chronic cases:** 2 mg. per lb. of body weight, 3 times daily, for 10 to 14 days or longer.

SUPPLIED: Orange-red scored tablets of 10 mg., bottle of 100; yellow scored tablets of 50 mg., bottles of 25 and 100. Available through your Professional Veterinary Distributor.

# Furadantin® veterinary

BRAND OF NITROFURANTOIN

NITROFURANS—A NEW CLASS OF ANTIMICROBIALS  —NEITHER ANTIBIOTICS NOR SULFONAMIDES

EATON LABORATORIES NORWICH, NEW YORK

Box 87, Floresville, Texas.
D.V.M., Texas A. & M. College, 1952.

PFEIL, C. E.
Box 721, Refugio, Texas.
D.V.M., Texas A. & M. College, 1951.

RIDDELLS, ROY A.
509 N. McKown, Sherman, Texas.
D.V.M., Texas A. & M. College, 1945.

SHEFFIELD, MARVIN J.
299 Central Park Ave., Yonkers, N. Y.
D.V.M., Middlesex University, 1946.

SILVERMAN, MARVIN J.
7164 N. 19th St., Philadelphia, Penn.
D.V.M., Middlesex University, 1946.

SINHA, SHYAMAL K.
21st and Penn Sts., Kansas City, Mo.
D.V.M., University of Philippines, 1950.

STEVENS, WILLIAM R.
Rt. 6, Palestine, Texas.
D.V.M., Texas A. & M. College 1955.

STORM, NICKOLAS
P.O. Box 365, Mio, Mich.
D.V.M., Justus-Liebig Veterinary College, Germany, 1949.

### Applicants—Not Members of Constituent Associations

In accordance with paragraph (b) of Section 2, Article X, of the Administrative Bylaws, as revised at the annual meeting of the House of Representatives, Aug. 18, 1951, in Milwaukee, Wis., notice of all applications from applicants residing outside of the jurisdictional limits of the constituent associations, and members of the Armed Forces, shall be published in the JOURNAL for two successive months. The first notice shall give the applicant's full name, school, and year of graduation, post office address, and the names of his endorsers.

### First Listing

BAIN, A. MURRAY
Chivers, Scone, N. S. W., Australia.
B.Sc., M.R.C.V.S., Royal (Dick) Veterinary College, Edinburgh, 1937.
Vouchers: H. E. Kingman, Jr., and J. G. Hardenbergh.

KELLER, HANS
c/o Veterinaria A. G., Eibenstrasse 9, Zurich, Switzerland.
V.M.D., University of Zurich, Switzerland, 1952.
Vouchers: D. K. Detweiler and M. M. Kaplan.

KNIGHT, ROBERT P.
The Glenormiston Butter & Cheese Factory Co., Ltd., Terang, Victoria, Australia.
B.V.Sc., University of Sydney, Australia, 1947.
Voucher: Peter T. Diplock.

MILLER, WALTER W.
2145 Santa Clara Ave., Alameda, Calif.
D.V.M., Iowa State College, 1940.
Vouchers: D. S. Stevenson and R. McNellis.

PESSIN, ARNOLD G.
Box 298, Lexington, Ky.
D.V.M., Texas A. & M. College, 1955.
Vouchers: J. H. Milliff and A. A. Lenert.

SHEEHY, ROBERT W.
Quarters 154 S., Fort Rosecrans, San Diego, Calif.
D.V.M., Alabama Polytechnic Institute, 1949.
Vouchers: R. McNellis and G. M. McFadden.

SUNARA, ANTHONY
2050 W. LeMoyne St., Chicago, Ill.
D.V.M., University of Perugia, Italy, 1923.
Vouchers: J. G. Hardenbergh and H. E. Kingman, Jr.

THOMAS, JULIAN H.
487 Medical Detachment, APO 403, New York, N. Y.
D.V.M., Texas A. & M. College, 1943.
Vouchers: H. E. Kingman, Jr., and J. G. Hardenbergh.

WRIGHT, ALBERT D.
1161 Ransome Dr., Novato, Calif.
D.V.M., Michigan State University 1945.
Vouchers: J. C. McIntyre and R. Vetter.

### Second Listing

ECKERMANN, EDGAR H.
11th Field Hospital, APO 178, New York, N.Y.

### Graduate Applicants

The following are graduates who have recently received their veterinary degree and who have applied for AVMA membership under the provision granted in the Administrative Bylaws to members in good standing of student chapters. Applications from this year's senior classes not received in time for listing this month will appear in later issues. An asterisk (*) after the name of a school indicates that all of this year's graduates have made application for membership.

### Second Listing

**Michigan State University***
GIBSON, JOHN G., D.V.M.
1220 Donnelly Rd., Jackson, Mich.

## STUDENT CHAPTER ACTIVITIES

**University of Georgia Student Chapter.**—The student chapter at the University of Georgia began its program this year before the start of the academic program. This was accomplished through providing the incoming freshmen with a folder containing information about the school, its costs, activities, dress, and what might be expected of a student entering the professional school.

A number of interesting programs have been held during the fall quarter, including a talk on "Trends in Livestock Production" by Dr. Thompson of the University of Georgia Department of Agricultural Economics; "Digestive Disturbances in the Bovine," by Dr. Bragg; "Practical Endocrinology," by Mr. Lewis Harris of Norden Laboratories, Lincoln, Neb. During the fall quarter, three motion pictures have been shown—"Animal Breeding;" "Silks and Sulkies;" and "Gaits of Horses."

The student chapter is now planning its annual winter dance for the next quarter.

• • •

**University of Missouri Student Chapter.**—In memory of the late Professor B. B. Roseboom, the Missouri Student Chapter of the AVMA, at its final meeting last year, established a student loan fund. This loan fund was designated as the B. B. Roseboom Memorial Loan Fund. One sixth of the Chapter earnings at the football concessions will be equally divided between this fund and the Boyer-Matthews Fund.

The present officers of the Missouri Student Chapter of the AVMA are Leonard Palmer, president; Garland Lindsey, president-elect; Robert J. Basnett; secretary; and Richard S. Barnett, treasurer.

# PARLAMATE

piperazine citrate, PARLAM

## eliminates WORMS in one treatment

### 'PARLAMATE' IS IDEAL for LARGE and SMALL ANIMAL USE

*Safe New All-Species, Anthelmintic up to 85-100% Effective Against Roundworms and Nodular Worms*

- Safe, fast and most effective.
- Non-toxic and easily tolerated.
- No hair or feather staining, hepatic damage, gastro-intestinal irritation, or other serious side effects.
- No pretreatment starving or purging necessary.
- Very palatable.
- Easily administered in feed or drinking water, or by dose syringe, drench or stomach tube.
- Only 1 treatment needed.
- 85-100% effective against mature and immature large roundworms (Ascaris) and nodular worms (Oesophagostomum).
- Long acting durable effect; parasites passed for several days.
- Economical to use.

**DOSAGE FORMS**

**'PARLAMATE' Powder** (contains 100% piperazine citrate). In preweighed dispensing packages convenient for office and field use.
Bottles of 1 oz., 4 ozs., 1 lb.

**'PARLAMATE' Tablets, 250 mg.** (each tablet contains the equivalent of 100 mg. available piperazine).
Bottles of 100 and 1,000 tablets.

**'PARLAMATE' Liquid.** (Each teaspoonful, approximately 5 cc., supplies 250 mg. piperazine citrate, which is equivalent to 100 mg. available piperazine.)
Bottles of 1 pint and 1 gallon.

***'PARLAMATE' IS NOW AVAILABLE FOR IMMEDIATE DELIVERY***

*At Your Supplier, or Write*

Parlam CORPORATION • 340 Canal Street, New York 13, N. Y.

"Devoted to progressive veterinary research for the development of superior products for graduate veterinarians."

**Sole Canadian Distributor:** Veterinary Medical Supply Co. of Canada, 6579 Somerled Ave., Montreal, Que.

# IN MASTITIS

**CHECK** inflammation promptly

**ERADICATE** infection

**REDUCE** secretory tissue damage

## METIBIOTIC

**mastitis infusion** VETERINARY

**bridge the therapeutic gap in mastitis by reducing inflammation.** In METIBIOTIC the more potent antiinflammatory properties of METICORTEN complement the wide antibacterial spectrum of **penicillin-dihydrostreptomycin,** which are bactericidal to the majority of mastitis organisms.

This combined action results in prompt penetration of the clogged ducts and high, sustained antibiotic levels. Recovery is rapid, usually following a single infusion, and milk production returns to normal generally within 24 to 36 hours.

**packaging:**

METIBIOTIC Mastitis Infusion Veterinary, 7.5 cc. tube, boxes of 12, 72, 144.

Schering

SCHERING CORPORATION, BLOOMFIELD, NEW JERSEY

METICORTEN,® brand of prednisone.
METIBIOTIC,® brand of procaine penicillin-dihydrostreptomycin in oil with prednisone acetate.

®T.M. V-MB-J-117

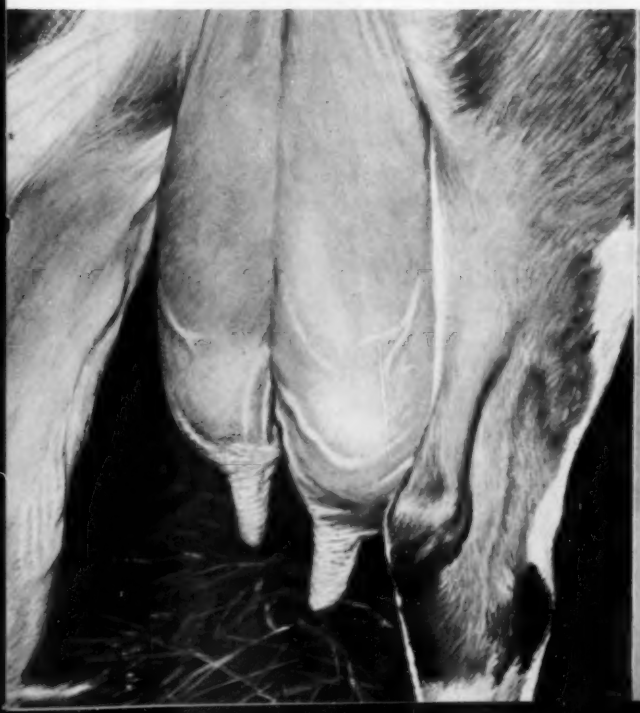
# THERAPY

the ideal mastitis preparation should include these factors:

It should have a wide therapeutic index and be effective in reducing inflammation and eradicating infection, should be nonirritating and easy to administer.

The economy of one-dose treatment also is important in veterinary medicine where the cost in time spent and the patient's lowered milk production are of vital importance.

**...the most complete antiinflammatory-antibiotic compound, fulfills these criteria in the treatment of acute and chronic mastitis.**



AN EXCELLENT DISPENSING ITEM

**Sold only to graduate veterinarians**

SCHERING CORPORATION
Bloomfield, New Jersey

V-MB-J-217

## COMING MEETINGS

Minnesota State Veterinary Medical Association. Annual meeting. Radisson Hotel, Minneapolis, Feb. 4-6, 1957. B. S. Pomeroy, 1443 Raymond Ave., St. Paul 8, secretary.

Kansas Veterinary Medical Association. Annual meeting. Lamer Hotel, Salina, Feb. 6-8, 1957. K. Maynard Curts, 5236 Delmar Ave., Kansas City 3, Kan., secretary.

New Jersey, Veterinary Medical Association of. Annual meeting. Berkeley Carteret Hotel, Asbury Park, Feb. 13-14, 1957. J. R. Porteus, P. O. Box 938, Trenton 5, N. J., resident secretary.

Nevada State Veterinary Association. Annual meeting. Ranch Inn, Elko, Feb. 15-16, 1957. W. F. Fisher, 1465 Wells Ave., Reno, Nev., secretary.



Missouri Veterinary Medical Association, Annual meeting. Chase Hotel, St. Louis, Feb. 15-16, 1957. Paul L. Spencer, P. O. Box 283, Jefferson City, Mo., secretary.

Colorado A. & M. College. Annual conference for veterinarians. Colorado A. & M. College, Veterinary Hospital, Fort Collins, Feb. 18-20, 1957. O. R. Adams, head, Veterinary Clinics and Surgery.

Illinois State Veterinary Medical Association. Annual convention. La Salle Hotel, Chicago, Feb. 25-27, 1957. C. B. Hostetler, 1385 Whitcomb Ave., Des Plaines, Ill., executive secretary.

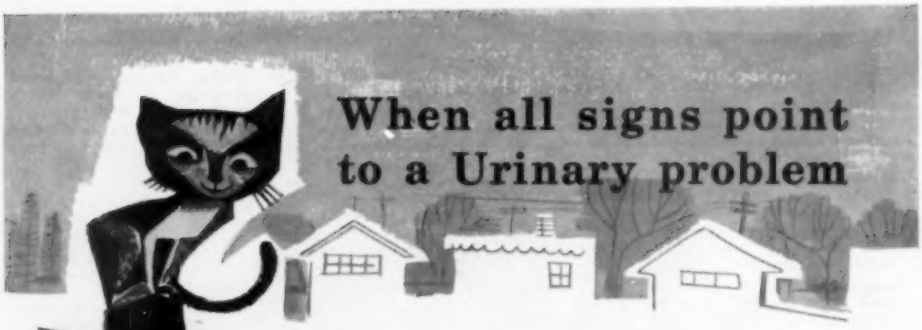
Washington, State College of. Annual conference for veterinarians. Pullman, Wash., April 8-10, 1957. Ray E. Watts, conference secretary.

Kansas State College. Conference for veterinarians. School of Veterinary Medicine, Manhattan, May 26-28, 1957. E. E. Leasure, dean.

Texas A. & M. College. Conference for veterinarians. Texas A. & M. College, College Station, June 6-7, 1957. R. D. Turk, chairman.

North Dakota Veterinary Medical Association. Annual meeting. Minot, N. Dak., June 17-18, 1957. Dean Flagg, 202 Teton Ave., Bismarck, N. Dak., secretary.

Canadian Veterinary Medical Association. Annual meeting. Vancouver, B.C., July 22-23, 1957. Claude Kealey, 1195 Wellington St., Ottawa 3, Ont., secretary.



# When all signs point to a Urinary problem


*the treatment of choice is*

# urised

*veterinary*

**URISED...**
Methenamine, salol, methylene blue and benzoic acid combat urinary tract invaders—reduce bacterial and pus-cell content, promote healing.

**URISED...**
Atropine, hyoscyamine and gelsemium relax smooth muscle along the urinary tract—relieve painful spasm quickly.

**URISED...**
Unexcelled for long-term therapy—no contraindications, no reports of toxic effects.

**URISED...**
Formation of alkaline calculi discouraged in acid urine.

*To treat all urinary problems of small animals, specify* **URISED,** *veterinary*

**Sold to Graduate Veterinarians only**

VETERINARY DIVISION

**CHICAGO PHARMACAL COMPANY**
5547 N. Ravenswood Ave.,
Chicago, Illinois

**Pacific Coast Branch**
**361 Eleventh St.**
**San Francisco, Calif.**

*Send for literature and clinical trial supply of* **URISED,** *veterinary*

## Regularly Scheduled Meetings

ALABAMA—Central Alabama Veterinary Association, the first Thursday of each month. B. M. Lauderdale, Montgomery, secretary.

Jefferson County Veterinary Medical Association, the second Thursday of each month. S. A. Price, 213 N. 15th St., Birmingham, secretary.

Mobile-Baldwin Veterinary Medical Association, the first Tuesday of each month. W. David Gross, 771 Holcombe Ave., Mobile, Ala., secretary.

ARIZONA—Central Arizona Veterinary Medical Association, the second Tuesday of each month. Keith T. Maddy, Phoenix, Ariz., secretary.

Southern Arizona Veterinary Medical Association, the third Wednesday of each month at 7:30 p.m. E. T. Anderson, Rt. 2, Box 697, Tucson, Ariz., secretary.

CALIFORNIA—Alameda Contra Costa Veterinary Medical Association, last Wednesday of each month. Leo Goldston, 3793 Broadway, Oakland 11, Calif., secretary.

Bay Counties Veterinary Medical Association, the second Tuesday of each month. E. Paul, Redwood City, Calif., secretary.

Central California Veterinary Medical Association, the fourth Tuesday of each month. R. B. Barsaleau, 2333 E. Mineral King, Visalia, Calif., secretary.

Kern County Veterinary Medical Association, the first Thursday evening of each month. A. L. Irwin, 301 Taft Highway, Bakersfield, Calif., secretary.

Mid-Coast Veterinary Medical Association, the first Thursday of every even month. W. H. Rockey, P. O. Box 121, San Luis Obispo, Calif., secretary.

Monterey Bay Area Veterinary Medical Association, the third Wednesday of each month. Lewis J. Campbell, 90 Corral de Tierra, Salinas, Calif., secretary.

North San Joaquin Valley Veterinary Medical Association, the fourth Wednesday of each month at the Hotel Covell, in Modesto, Calif. Lyle A. Baker, Turlock, Calif., secretary.

Orange Belt Veterinary Medical Association, the second Monday of each month. Chester A. Maeda, 766 E. Highland Ave., San Bernardino, Calif., secretary.

Orange County Veterinary Medical Association, the third Thursday of each month. Donald E. Lind, 2643 N. Main St., Santa Ana, Calif., secretary.

Peninsula Veterinary Medical Association, the third Monday of each month. T. D. Harris, San Mateo, Calif., secretary.

Redwood Empire Veterinary Medical Association, the third Thursday of each month. Robert E. Clark, Napa, Calif., secretary.

Sacramento Valley Veterinary Medical Association, the second Wednesday of each month. W. E. Steinmetz, 4227 Freeport Blvd., Sacramento, Calif., secretary.

San Diego County Veterinary Medical Association, the fourth Tuesday of each month. H. R. Rossoll, 1795 Moore St., San Diego, Calif., secretary.

San Fernando Valley Veterinary Medical Association, the second Friday of each month at the Casa Escobar Restaurant in Studio City. John Chudacoff, 7912 Sepulveda Blvd., Van Nuys, secretary.

Southern California Veterinary Medical Association, the last Wednesday of each month. Don Mahan, 1919 Wilshire Blvd., Los Angeles 57, Calif., executive secretary.

Tulare County Veterinarians, the second Thursday of each month. R. B. Barsaleau, 2333 E. Mineral King, Visalia, Calif., secretary.

COLORADO—Denver Area Veterinary Society, the fourth Tuesday of every month. Richard C. Tolley, 5060 S. Broadway St., Englewood, Colo., secretary.

Northern Colorado Veterinary Medical Society, the first Monday of each month. M. A. Hammarlund, School of Veterinary Medicine, Colorado A. & M. College, Fort Collins, Colo., secretary.


**DEMEROL HYDROCHLORIDE** ranks between morphine and codeine in analgesic power. Furthermore, it possesses marked spasmolytic and mild sedative action. It causes less nausea and vomiting and less urinary retention than morphine, and no constipation. The danger of respiratory depression is also greatly reduced with Demerol hydrochloride. *Warning: May be habit forming.*

Preanesthetic agent in dogs, for relief of colicky enteritis and intractable cough, asthma and other respiratory tract pain.

Particularly useful in any instance in which pain is a factor in the handling of a patient.

Well tolerated in cats.

For oral, subcutaneous and intramuscular administration.

Ampuls of 1 cc. (50 mg.); 2 cc. (100 mg.); vials of 30 cc. (50 mg. per cc.); tablets of 50 and 100 mg. *Narcotic blank required.*

Winthrop LABORATORIES
1450 BROADWAY | NEW YORK 18, N. Y.

**Demerol®**
*hydrochloride*

Demerol (brand of meperidine), trademark reg. U. S. Pat. Off.

1118V

DELAWARE—New Castle County Veterinary Association, the first Tuesday of each month at 9:00 p.m. in the Hotel Rodney, Wilmington, Del. E. J. Hathaway, Clifton Park Manor, Apt. 73-5, Wilmington 2, Del., secretary.

FLORIDA—Central Florida Veterinary Medical Association, the second Friday of each month, time and place specified monthly. James B. Murphy, Eustis, Fla., secretary.

Jacksonville Veterinary Medical Association, the second Thursday of each month, time and place specified monthly. George F. Yopp, 4644 Main St., Jacksonville, Fla., secretary.

Northwest Florida Veterinary Medical Society, third Wednesday of each month, time and place specified monthly. Harold A. Tennant, Atmore, Ala., secretary.

Palm Beach Veterinary Society, the last Thursday of each month in the county office building at 810 Datura St., West Palm Beach. Ross E. Evans, 5215 S. Dixie Highway, West Palm Beach, Fla., secretary.

Ridge Veterinary Medical Association, the fourth Thursday of each month in Bartow, Fla. Paul J. Myers, Winter Haven, Fla., secretary.

South Florida Veterinary Society, the third Tuesday of each month, at the Seven Seas Restaurant, Miami, Fla. E. D. Stoddard, 6432 S. W. 8th St., Miami, Fla., secretary.

Suwannee Valley Veterinary Association, the third Friday of each month, at the Thomas Hotel, Gainesville, Fla. R. C. Mann, Rt. 1, Box 37, Ocala, Fla., secretary.

Volusia County Veterinary Medical Association, the fourth Thursday of each month. A. E. Hixon, 131 Mary St., Daytona Beach, Fla., secretary.

GEORGIA—Atlanta Veterinary Society, the second Tuesday of every month at the Elks Home on Peachtree St., Atlanta, Ga. J. L. Christopher, Smyrna, Ga., secretary.

ILLINOIS—Chicago Veterinary Medical Association, the second Tuesday of each month. Mark E. Davenport, Jr., 215 S. Edgewood Ave., LaGrange, Ill., secretary.

Eastern Illinois Veterinary Medical Association, the first Thursday of March, June, September, and December. A one-day clinic is held in May. H. S. Bryan, College of Veterinary Medicine, University of Illinois, Urbana, secretary.

INDIANA—Central Indiana Veterinary Medical Association, the second Wednesday of each month. Peter Johnson, Jr., 4410 N. Keystone Ave., Indianapolis 5, secretary.

Michiana Veterinary Medical Association, the second Thursday of every month except July and December, at the Hotel LaSalle, South Bend, Ind. J. M. Carter, 3421 S. Main St., Elkhart, Ind., secretary.

Tenth District Veterinary Medical Association, the third Thursday of each month. W. E. Sharp, Union City, Ind., secretary.

IOWA—Cedar Valley Veterinary Association, the second Monday of each month, except January, July, August, and October, at Black's Tea Room, Waterloo, Iowa. H. V. Henderson, Reinbeck, Iowa, secretary.

Coon Valley Veterinary Association, the second Wednesday of each month, September through May, at the Bradford Hotel, Storm Lake, Iowa. D. I. Lee, Sac City, Iowa, secretary.

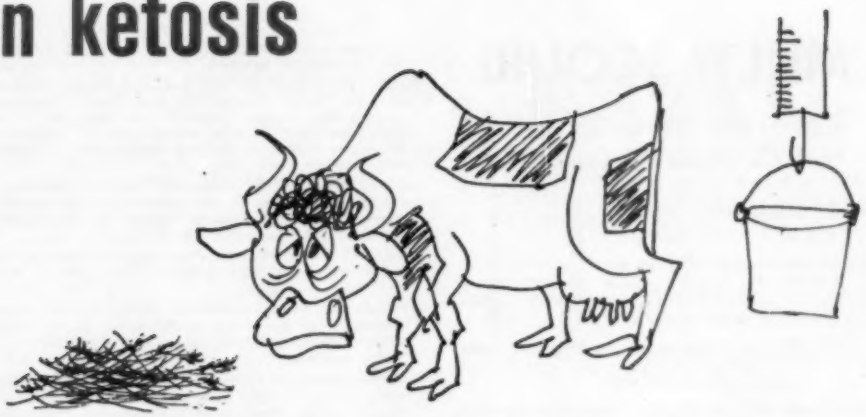
Fayette County Veterinary Association, the third Tuesday of each month, except in July and August, at Pa and Ma's Restaurant, West Union, Iowa. Donald E. Moore, Box 178, Decorah, Iowa, secretary.

Northeast Iowa-Southern Minnesota Veterinary Association, the first Tuesday of February, May, August, and November at the Winneslick Hotel, Decorah, Iowa, 6:30 p.m. Donald E. Moore, Box 178, Decorah, Iowa, secretary.

KENTUCKY—Central Kentucky Veterinary Medical Association, the first Wednesday of each month. L. S. Shirrell, Versailles Rd., Frankfort, secretary.

Jefferson County Veterinary Society of Kentucky, Inc., the first Wednesday evening of each month in Louisville

# in ketosis



When appetite fades and milk production falls . . . use

## STERANE®

BRAND OF PREDNISOLONE

to put her back on feed and restore milk volume faster

STERANE—for an early return to milk production.

STERANE, three to five times more potent than hydrocortisone and cortisone, stimulates glucose formation and helps re-establish physiological equilibrium. In clinical studies a single intramuscular injection of *50* to *100* mg. of Sterane promptly restored energy metabolism, with rapid reversal of ketotic symptoms in over 83 per cent of 299 cases treated.

STERANE INTRAMUSCULAR-VETERINARY

*Sold to veterinarians only*

Pfizer

Ask your Pfizer Distributor about the *Pfizer Pandora Medical Bag* offer!

Department of Veterinary Medicine, PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc.*, Brooklyn 6, N. Y.

or within a radius of 50 miles. W. E. Bewley, P.O. Box "H," Crestwood, secretary.

MARYLAND—Baltimore City Veterinary Medical Association, the second Thursday of each month, September through May (except December), at 9:00 p.m. at the Park Plaza Hotel, Charles and Madison St., Baltimore, Md. Harry L. Schultz, Jr., 9011 Harford Rd., Baltimore, Md., secretary.

MICHIGAN—Mid-State Veterinary Medical Association, the fourth Thursday of each month with the exception of November and December. Robert E. Kader, 5034 Armstrong Rd., Lansing 17, Mich., secretary.

Saginaw Valley Veterinary Medical Association, the last Wednesday of each month. S. Correll, Rt. 1, Midland, Mich., secretary.

Southeastern Veterinary Medical Association, the fourth Wednesday of every month, September through May. Gilbert Meyer, 14003 E. Seven Mile Rd., Detroit 5, Mich., secretary.

MISSOURI—Greater St. Louis Veterinary Medical Association, the first Friday of the month (except July and August) at the Sheraton Hotel, Spring Ave. and Lindell Blvd. Allen B. Shopmaker, 136 N. Meramec, Clayton 5, Mo., secretary.

Kansas City Small Animal Hospital Association, the first Monday of each month, at alternating hospitals. W. F. Noland, 7504 Metcalf, Overland Park, Kan., secretary.

Kansas City Veterinary Medical Association, the third Tuesday of each month at Exchange Hall, ninth floor, Livestock Exchange Bldg., 1600 Genessee St., Kansas City, Mo. Busch Meredith, 800 Woodswether Rd., Kansas City 5, Mo., secretary.

NEW JERSEY—Central New Jersey Veterinary Medical Association, the second Thursday of November, January, March, and May at Old Hights Inn, Hightstown, N. J. David C. Tudor, Cranbury, N. J., secretary.

Metropolitan New Jersey Veterinary Medical Association, the third Wednesday evening of each month from October through April at the Academy of Medicine, 91 Lincoln Park South, Newark, N. J. Myron S. Arlein, 2172 Milburn Ave., Maplewood, N. J., secretary.

Northern New Jersey Veterinary Association, the fourth Tuesday of each month at the Casa Mana in Teaneck. James R. Tanzola, Upper Saddle River, secretary.

Northwest Jersey Veterinary Society, the third Wednesday of every odd month. F. B. Duke, 49 Taylor St., High Bridge, N. J., secretary.

Southern New Jersey Veterinary Medical Association, the third Tuesday of each month at the Collingswood Veterinary Hospital, Collingswood. W. E. Snyder, E. Kings Highway and Munn Ave., Haddonfield, secretary.

NEW YORK—New York City, Inc., Veterinary Medical Association of, the first Wednesday of each month at the New York Academy of Sciences, 2 East 63rd St., New York City. C. E. DeCamp, 43 West 61st St., New York 23, N. Y., secretary.

Monroe County Veterinary Medical Association, the first Thursday of even-numbered months except August. Irwin Bircher, 50 University Ave., Rochester, N. Y., secretary.

NORTH CAROLINA—Central Carolina Veterinary Medical Association, the second Wednesday of each month at 7:00 p.m. in the O'Henry Hotel, Greensboro. Joseph A. Lombardo, 411 Woodlawn Ave., Greensboro, secretary.

Eastern North Carolina Veterinary Medical Association, the first Friday of each month. Wm. Allen Potts, 401 W. James St., Mount Olive, secretary.

Piedmont Veterinary Medical Association, the last Friday of each month. John G. Martin, Boone, N. Car., secretary.

OHIO—Cuyahoga County Veterinary Medical Association, the first Wednesday of each month, September through May (except January), at 9:00 p.m. at the Carter Hotel, Cleveland, Ohio. Ed. R. Jacobs, 5522 Pearl Rd., Cleveland, Ohio, secretary.

OKLAHOMA—Oklahoma County Veterinary Medical Association, the second Wednesday of every month. James M. Brown, 2818 W. Britton Rd., Oklahoma City, secretary.

Tulsa Veterinary Medical Association, the third Thursday of each month in Directors' Parlor of the Brookside State Bank, Tulsa, Okla. Don L. Hohmann, 538 S. Madison St., Tulsa, Okla., secretary.

PENNSYLVANIA—Keystone Veterinary Medical Association, the fourth Wednesday of each month at the University of Pennsylvania School of Veterinary Medicine, 39th and Woodland Ave., Philadelphia 4, Pa. Raymond C. Snyder, 39th and Woodland Ave., Philadelphia 4, Pa., secretary.

SOUTH CAROLINA—Piedmont Veterinary Medical Association, the third Wednesday of each month at the Fair forest Hotel, Union, S. Car. Worth Lanier, York, S Car., secretary.

TEXAS—Coastal Bend Veterinary Association, the second Wednesday of each month. J. Marvin Prewitt, 4141 Lexington Blvd., Corpus Christi, Texas, secretary.

VIRGINIA—Central Virginia Veterinarians' Association, the third Thursday of each month at the William Byrd Hotel in Richmond at 8:00 p.m. M. R. Levy, 312 W. Cary St., Richmond 20, Va., secretary.

Northern Virginia Veterinary Society, the second Wednesday of every third month. Meeting place announced by letter. H. C. Newman, Box 145, Merrifield, Va., secretary.

Southwest Virginia Veterinary Medical Association, the first Thursday of each month. I. D. Wilson, Blacksburg, secretary.

WASHINGTON—Seattle Veterinary Medical Association, the third Tuesday of each month in the Trinity Episcopal Church, 8th and James St., Seattle, Wash. P. R. Des Rosiers, 5508 2nd Ave., N. W., Seattle 7, Wash., secretary.

South Puget Sound Veterinary Association, the second Thursday of each month except July and August. O. L. Bailey, P. O. Box 906, Olympia, Wash., secretary.

WEST VIRGINIA—Kyowva (Ky., Ohio, W. Va.) Veterinary Medical Association, the second Thursday of each month in the Hotel Prichard, Huntington, W. Va., at 8:30 p.m. Harry J. Fallon, 200 5th St., W. Huntington, W. Va., secretary.

WISCONSIN—Milwaukee Veterinary Medical Association, the third Tuesday of each month, at the Half-Way House, Blue Mound Rd. George F. Lynch, 201 West Devon St., Milwaukee 17, Wis., secretary.

## CLASSIFIED ADVERTISEMENTS

**Personal Want Ads**—$4.00 for the first 25 words and 10 cents for each additional word; 35 cents for use of box number.

**Commercial Want Ads**—$5.00 for the first 25 words, 25 cents for each additional word.

**Remittance must accompany ad.**

**Deadlines for Want Ads**

***For JOURNAL dated 1st of month*** **— 8th of month preceding date of issue.**

***For JOURNAL dated 15th of month*** **— 22nd of month preceding date of issue.**

Names of classified advertisers using key letters can not be supplied. Address your reply to the key letters, c/o JOURNAL of the AVMA, 600 S. Michigan Ave., Chicago 5, Ill., and it will be transmitted to the advertiser.

### Wanted—Veterinarians

Young, ambitious veterinarian wanted to assist in busy mixed practice; large and small animal hospital. Salary open; permanent with good future. Address "Box B 2," c/o JOURNAL of the AVMA.

Experienced veterinarian wanted with Florida license; capable of handling lucrative small animal hospital. Salary $4,500 plus commission and future. Address "Box B 4," c/o JOURNAL of the AVMA.

Veterinarian wanted for Middlewest swine-cattle practice; not in drought area. Prefer man over 30 but would consider younger man; might consider partnership. Inquiries confidential. Address "Box B 7," c/o JOURNAL of the AVMA.

Veterinary assistant wanted in mixed practice in Illinois; modern office and equipment. Recent graduate preferred; reply stating school, age, experience, marital status, and availability. Address "Box B 12," c/o JOURNAL of the AVMA.

Veterinarian with field experience wanted for position as diagnostician and consultant. Indiana license or reciprocity necessary. Substantial salary and other benefits. Applicant should submit brief information on background, references, and general qualifications in writing for interview appointment. Address Anchor Serum Co. of Indiana, Inc., P.O. Box 1177, Indianapolis 6, Ind.

Veterinarian wanted as associate in a country practice. 75% large animals, in northern New England. Address "Box A 26," c/o JOURNAL of the AVMA.

Veterinarian wanted to assist in active small animal practice conducted in modern hospital now staffed by 2 veterinarians in suburb of New York City. Address "Box A 28," c/o JOURNAL of the AVMA.



Associate wanted in small animal practice in Maryland; excellent working conditions and salary; vacation and sick leave guaranteed. Apartment available if desired. Address "Box A 31," c/o JOURNAL of the AVMA.

### Wanted—Positions

Young, married, veteran wants position in Illinois; 1955 Colorado graduate, experienced. Mixed practice, or small animals, with possibility of partnership or lease of individual practice. Address "Box B 5," c/o JOURNAL of the AVMA.

Recent graduate of approved school desires position in mixed or small animal practice on eastern seaboard. Licensed in Kansas and New Jersey. Married; veteran; available late spring. Address "Box B 9," c/o JOURNAL of the AVMA.

Graduating this spring from Ontario Veterinary College. Desire position in small animal practice, leading to partnership or purchase; go anywhere. Further particulars supplied. Address "Box B 10," c/o JOURNAL of the AVMA.

German veterinarian, doctor of veterinary medicine, 31, married, living in the United States, graduated from Hannover, 1952 (graduates of this year are recommended by AVMA for recognition by State Boards and other agencies) with 4½ years of intensive experience in small animal practice, various biological tests (including experimental surgery), and the care of laboratory animals, desires position with pharmaceutical company, research establishment, university, or progressive small animal practice. Special interest and experience, surgery (including thorax surgery). Best recommendations. Address "Box B 11," c/o JOURNAL of the AVMA.

Young German veterinary surgeon, graduated from Munich, 1955 (graduates of this year are recommended by AVMA for recognition by State Boards and other agencies) experienced in all kinds of veterinary practice, especially large animals, including artificial insemination and treatment of infertility; interested in surgery; wishes to contact practitioner or animal clinic with view to long assistantship. Presently working in Ireland. Available June 1957. Address Dr. H. J. Neumann, Emly, Tipperary, Ireland.

### Wanted—Practices

Experienced small animal practitioner, 1954 graduate, desires small animal practice in Ohio or Illinois. Will lease, buy, or consider partnership. Address "Box B 13," c/o JOURNAL of the AVMA.

Experienced practitioner wants small animal practice, Michigan or northern Ohio. Will consider purchase or lease with option. All replies confidential and answered. Address "Box B 1," c/o JOURNAL of the AVMA.

Experienced small animal practitioner wishes to purchase or lease a predominantly small animal practice, preferably in Middlewest; OSU graduate, married, veteran. Address "Box B 6," c/o JOURNAL of the AVMA.

### For Sale or Lease—Practices

Well-established small animal practice for sale in large Northwest city. For particulars address "Box B 8," c/o JOURNAL of the AVMA.

(*Continued on page 52*)

# The Lunatic Wept

ABRAHAM SIMMONS couldn't feel the frost that lined his cage, or taste the swill they fed him, or chafe at his iron chains—so his keepers said. He was a madman.

Then when his visitor, little Miss Dix, spoke softly to him, why did he weep?

Dorothea Lynde Dix knew why. And her knowledge kept her fighting all her life to get the mentally ill away from pits and cages, whips and chains, and into hospitals.

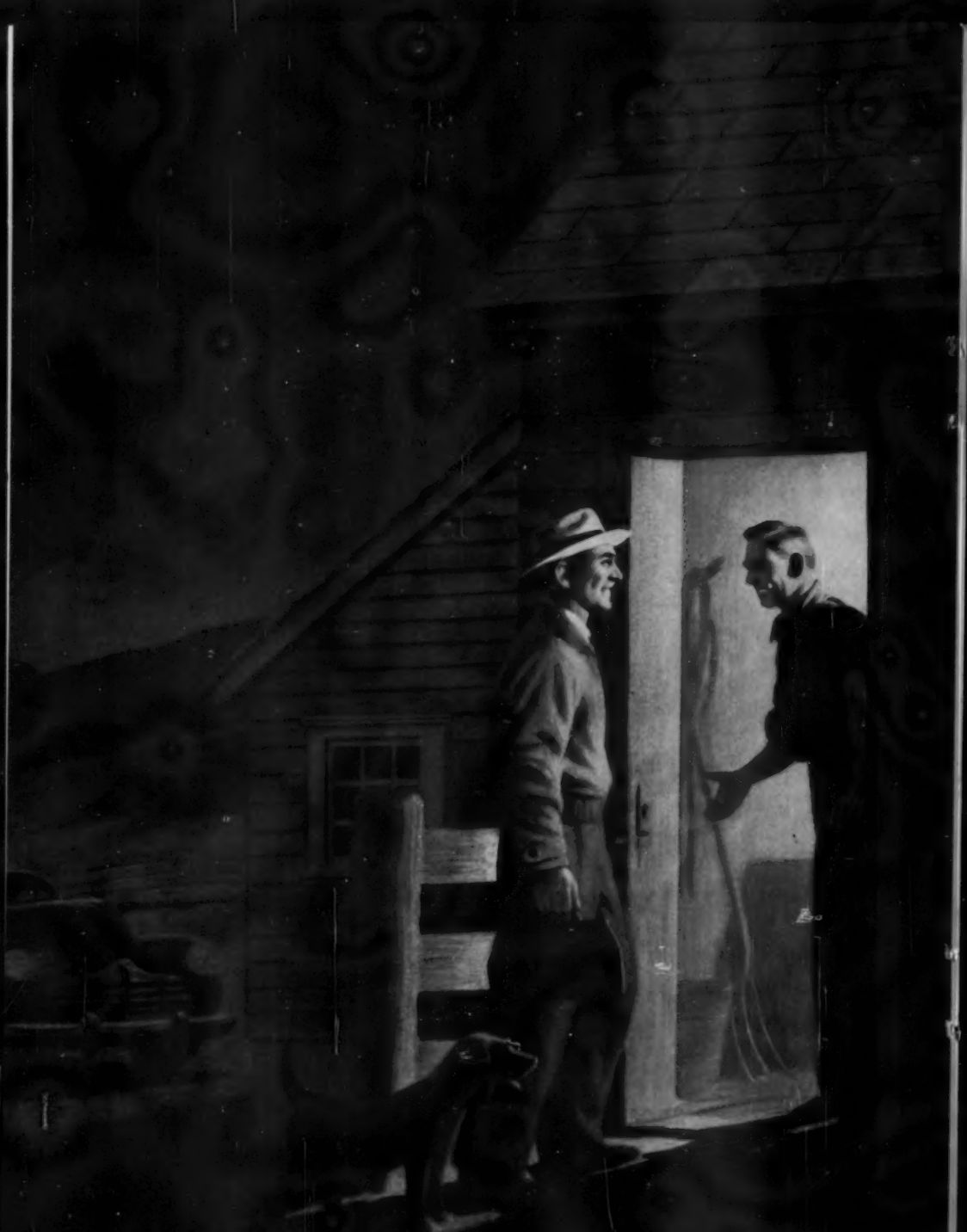
In nearly 40 years, she paused only once—to render heroic service as superintendent of nurses in the Civil War. Then again she began investigating, writing, fund-raising, politicking, until this frail ex-school teacher had pushed a whole country into one of the finest reforms in its history: the sane treatment of the insane.

Dorothea Dix was fortunate in having one powerful ally: the American people. For as history will show, Americans are seldom self-satisfied; they long to do right. That urge has helped them build a strong, stable nation in a troubled world—and it has helped make their country's Savings Bonds a rock-ribbed assurance of security.

The will and purpose of 168 million Americans back U.S. Savings Bonds, back them with the best guarantee you could possibly have. Your principal guaranteed safe to any amount—your interest guaranteed sure—by the greatest nation on earth. If you want *real* security, buy U.S. Savings Bonds. And hold on to them.

***Safe as America—U. S. Savings Bonds***

*The U. S. Government does not pay for this advertisement. It is donated by this publication in cooperation with the Advertising Council and the Magazine Publishers of America.*



*The farmer depends on the veterinarian to maintain his livestock health and profits*

# Why successful Veterinarians can depend on CYANAMID Products

The busy veterinarian with his sense of great responsibilty to the owners of the livestock he treats or whose health he constantly guards, must have full confidence that the medications he uses are of unexcelled quality and meet the highest standards of effectiveness.

The Cyanamid Professional Line, including the Polyotic Tetracycline products, is the result of the most exacting and advanced research coupled with conscientious production, under strictest quality control.

The range of the line is broad to provide the veterinarian with virtually every type of modern medication required in the most diversified practice.

Every Cyanamid Professional and Polyotic Tetracycline product is speedily available from many points throughout the country – and Cyanamid spares no effort to render the utmost in service to the veterinary profession.

These fine products are sold only to veterinarians.

For detailed information write to American Cyanamid Company, Professional Service Department, Farm and Home Division, 30 Rockefeller Plaza, New York 20, N. Y.

POLYOTIC INTRAMUSCULAR:
100 mg.-500 mg.-1 Gm.-5 Gm.
POLYOTIC INTRAVENOUS: 100 mg.-2.5 Gm.
POLYOTIC OBLETS®: 4's-6 x 4's
POLYOTIC CAPSULES: 50 mg., 25's-100's;
100 mg., 100's; 250 mg., 16's-100's
POLYOTIC TABLETS: 50 mg., 25's-100's;
100 mg., 25's-100's; 250 mg., 16's-100's
POLYOTIC MASTITIS OINTMENT ¼ oz.
POLYOTIC COMPOUND MASTITIS OINTMENT: ¼ oz.
POLYOTIC OPHTHALMIC OINTMENT 1%:
6 x ⅛ oz.
POLYOTIC POWDER 2%: 35 Gm. Puffer Bottle
POLYOTIC TOPICAL OINTMENT 3%: 1 oz.
POLYOTIC SOLUBLE (Tinted) POWDER:
¼ lb.-½ lb.-1 lb.-5 lb.
AVIANIZED® RABIES VACCINE: (Canine):
1 dose-5 x 1 dose-10 doses-100 doses
AVIANIZED RABIES VACCINE (Cattle): 10 doses
AVIANIZED CANINE DISTEMPER VACCINE:
1 dose-10 x 1 dose
ANTI-CANINE DISTEMPER SERUM AND
ANTI-INFECTIOUS CANINE HEPATITIS SERUM: 100 cc.
INFECTIOUS CANINE HEPATITIS VACCINE:
2 cc.-10 cc.
BRUCELLA ABORTUS VACCINE: 1 dose-5 x 1 dose-
5 doses (25 cc.)
FELINE DISTEMPER VACCINE: 1 immunization
(2 vials Vaccine, 2 vials Sterile Diluent, 2 cc.)
ANTI-FELINE DISTEMPER SERUM: 10 cc.
CARICIDE® Diethylcarbamazine TABLETS:
400 mg., 25's
DIETHYLSTILBESTROL SOLUTION: 10 cc.-50 cc.
LEPTOSPIRA CANICOLA-ICTEROHEMORRHAGIAE
BACTERIN
Whole Cultured Inactivated:
1 dose (4 cc.)
*Other products to be added.*

Well-established pet hospital for lease for 5 years; fast growing southern California. Rent approximately 15% of $2,250 average monthly gross ($350). Operated with 1 kennel man; hours 9-6; closed Sundays, holidays. Newly redecorated 2-bedroom home adjacent, $125 monthly. Advantageous but not required. Not anxious to move and willing to handle emergency evening and Sunday work. Hospital fully equipped; x-ray, diathermy, desiccator, instruments, crematory, air-conditioner, outdoor runs. Require last 4 months' rent in advance. Address "Box B 3," c/o JOURNAL of the AVMA.

Mixed practice for sale in northern Indiana; home with hospital attached. Large animals, 85%; small, 15%; has good small animal possibilities due to recent industrial growth. Gross from $23,000 to $25,000. Address "Box B 14," c/o JOURNAL of the AVMA.

Dairy practice must be sold immediately; only large animal veterinarian in this progressive community. Annual gross, $22,500 to $25,000; a give-away for $1,500 for practice, drugs, and equipment. Address "Box A 7," c/o JOURNAL of the AVMA.

**Miscellaneous**

Veterinary equipment for sale, including clippers. Write for list. Address Dr. S. E. Hershey, Box 283, Charleston, W. Va.

Crisp veterinary medical writing, prompt editorial attention given to manuscripts of all lengths in all specialties, including parasitology, mycology. Consult Scriptors, Box 821, Kalamazoo, Mich.

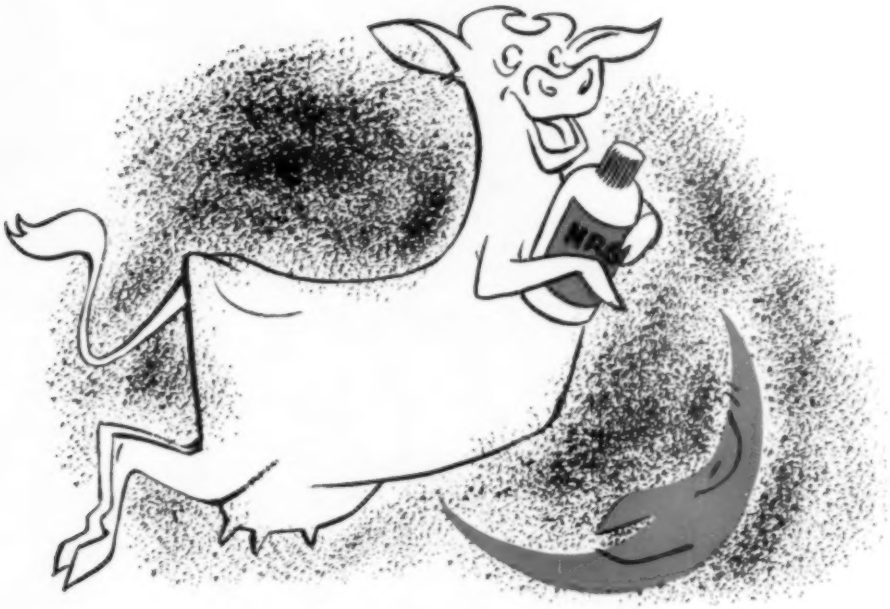
Artificial Udder—Beco Litter Feeder—nurses 8 puppies simultaneously. Stays warm; easily cleaned and sterilized. Complete unit, $15; guaranteed. Breeders Equipment Co., Flourtown, Pa.

Breedersleve—the disposable obstetrical sleeve. Package of 25 with detachable chest band, $5.00; lower wholesale prices. Free sample upon request. Breeders Equipment Co., Flourtown, Pa.





**Index to Advertisers in This Issue**




FOR A QUICK,

LASTING SOURCE OF ENERGY...

# N. R. G.

N.R.G. Solution is a ready source of energy in the treatment of ketosis and other conditions of stress. Recommended for both large and small animals. N.R.G. Solution contains fast-acting dextrose 25% combined with slow-acting sorbitol 25% for prolonged action. Administer intravenously. Supplied in cartons of 12 x 500 cc. bottles.

HAVER-GLOVER
division of **HAVER / LOCKHART LABORATORIES**
Kansas City, Missouri

Jen-Sal

# new NEOCIDE* BOLUS provides total therapy for bacterial calf scours!

New Jen-Sal NEOCIDE boluses dissolve rapidly, releasing high levels of neomycin, electrolyte salts and kaolin for immediate three-way attack on the total problem of calf diarrhea.

Neomycin, outstanding intestinal antibiotic, is almost non-absorbable from the intestine. It controls gram-negative organisms responsible for much diarrhea in young animals, with virtually no danger of post-treatment drug resistant infection.

Electrolyte salts in proper ratio restore body cell chemistry to normal, reducing risk of circulatory collapse and sudden death.

Highly adsorbent kaolin slows down passage of vital fluids through the inflamed intestinal tract, and adsorbs toxic substances for more effective removal.

NEOCIDE'S practical price and convenient low dosage support dispensing needs. You and your clients will appreciate the economy, rapid action and total effectiveness of new NEOCIDE therapy. Order in packages of twenty boluses to be ready for the scouring season ahead.

**reports received from premarket clinical testing indicate the unique advantages of new NEOCIDE therapy**

**no other medication —**
It was used on a calf from sale barn with scours and complications. No other medication was necessary.

**recovery in half the time —**
A farmer had 2 calves scouring. Neocide was given one, an antibiotic combination to the other. Neocide brought recovery in half the time of the other therapy.

**other therapy failed —**
The results were excellent . . . complete . . . one calf continued scouring several days even after receiving other therapy.

*trade mark

## Jensen - Salsbery Laboratories, Inc.

Kansas City, Missouri